THE HEALTH MAGAZINE

HYGEIA

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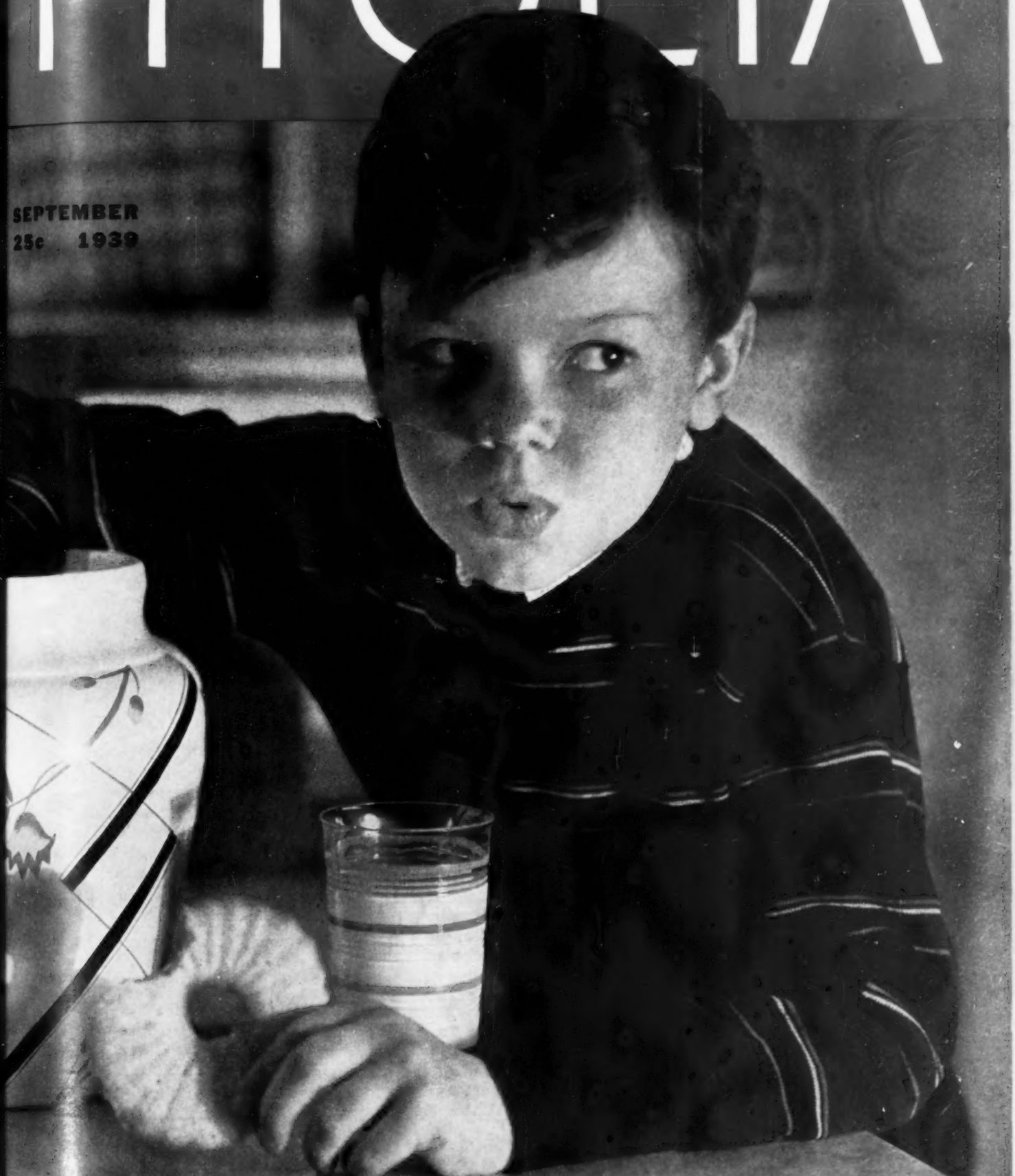

How Much Should He Eat? See page 783

"WHAT'S COME OVER SALLY?"

LIFE IN THE McCormick household has suddenly become full of unpleasant surprises.

Sally, the merry little girl with "such a sunny disposition," is now a creature of unpredictable moods. She is given to easy tears and sudden fits of temper—quick to take offense at some chance remark. It's obvious that she's not herself.

What should Sally's parents do about it? Pronounce her behavior inexcusable and devise a punishment to fit the crime? Or suffer the outbursts in silence?

No, because they are sensible people, Sally's parents will do neither of these things. They will look upon her emotional upsets chiefly as evidence that something is *physically* wrong — that bodily readjustments are sending up danger signals that should be heeded promptly. And realizing this, they will take her to the family doctor.

There is every reason why a girl entering her teens should be given regular check ups by a physician. Important changes are taking place which frequently throw the body's delicately-adjusted glandular system out of balance.

This is often a cause of headaches, weight disturbances, and emotional outbursts. During adolescence, heart and lungs need watching. At this time, tuberculosis, anemia, and appendicitis become greater hazards.

The doctor can not only help remedy "the troubles of the teens," but if the child is brought to him early, he can often forestall them. He can also take steps to correct any organic weakness.

Under the physician's sympathetic direction, adolescence is usually a happier prelude to healthy, happy womanhood.

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WHO'S WHO IN HYGEIA

After studying the works of Jung, Freud, Coue and Adler for fifteen years, **SMILEY BLANTON, M.D.**, decided that Freud was the person he wished to work with, and so he put in a year in 1929-30 and the summers of 1936, 1938 and 1939 under his tutelage. He has recently retired after rounding out twenty-five years' teaching at Cornell, Wisconsin, Minnesota and Vassar. Dr. Blanton is chiefly interested in the problems of normal adults, and in order to understand and help such persons, he has made a study of children and adolescents. He organized a Child Guidance Clinic in Minneapolis for normal children and the Nursery School at Vassar, which he directed for four years.

FRED R. ADAMS, D.D.S., is an "Up state New Yorker," by his own admission, although he is lecturing, practicing and cultivating flowers in New York City at present. A member of most of the local and national dental societies, he has been Vice-President of the American Dental Association. Pain control has been the subject of many of his lectures, as it is the subject of his current contribution.

EMIL NOVAK, M.D., has devoted special attention to the fields of endocrinology (study of internal secretions) and pathology, especially in the field of cancer, on which he has published numerous papers.

According to the publishers of his latest book, **MERRILL MOORE, M.D.** has written more sonnets at his age than any other man who ever lived, and his anthology of 1,000 poems is the largest of its kind ever produced. As yet unpublished are some 50,000 more sonnets he has written, which, it is claimed, are autobiographical. Professionally, Dr. Moore is a specialist in problems of neurology and psychiatry, which authorizes him to write on the subject of "Nervous Fatigue" in this issue.

HYGEIA

THE HEALTH MAGAZINE

Published and copyrighted, 1939, by the American Medical Association. Edited by Morris Fishbein, M.D.

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HYGEIA, The Health Magazine, is published monthly by the American Medical Association, 535 North Dearborn Street, Chicago, Ill. Yearly subscription price, $2.50; for foreign postage add 75 cents. Single copies 25 cents. Volume 17, Number 9. Entered as second-class matter March 21, 1923, at the postoffice at Chicago, Ill., under the Acts of March 3, 1879. Acceptance for mailing at special rate of postage provided for in Section 1,103 Act of October 3, 1917, authorized March 21, 1923.

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LETTERS FROM *Readers*

Food Handlers

To the Editor:

I have read "Cleaning Up on Food," by Jerome Meyers and Elizabeth Semenoff, page 701, HYGEIA for August, and am amazed that they never warned against the butcher, dairyman and other venders who lay their inevitable cigaret, with more or less saliva, aside to handle the food purveyed. The smoke of a cigaret itself is pernicious, and milk, butter and other foods absorb this poison. I am perturbed as I walk through large markets and note the unsanitary conditions. It is common to see butcher-boys lay their fag down on the chopping block or uncut quarters, while serving customers. Why there was no warning by the writers against grocers, butchers, milkmen and others who serve with saliva-tainted fingers may be due to thoughtlessness. If kissing is a method of transmitting a disease, is not cigaret saliva quite as bad, without the compensation of osculation? Incidentally (without detailing the multimillion dollar propaganda for cigarets' use), why do many girls and women think they are more attractive if they smell bad? There are very many reasons why women should not smoke, but so long as it is fashionable, *many elect to be fools to be in fashion* [sic].

ERNEST CRUTCHER, M.D.
Los Angeles, Calif.

▲

Elimination of Ragweed

To the Editor:

I believe it may be of interest to Dr. Spillman to know that the Southbridge Woman's Club has recently completed a campaign to eradicate ragweed. Eight cash prizes were awarded to contestants pulling the greatest quantities of the weed at the close of the week-long drive. Far exceeding our expectations, a little more than four and one-half tons were turned in at the weighing stations. However, we realize that this is merely a start in the right direction and hope to persuade our neighboring towns to join our campaign next year.

ELEANOR S. WHITAKER
Southbridge, Mass.

▲

Our Apologies Expressed

To the Editor:

In the March 1939 issue of HYGEIA, page 225, Claude Lillingston places the plague in Byzantium in the year 540 B. C. He goes on to state in the preface that "the historian Procopius gave his classic account of the plague in Byzantium several hundred years before the birth of Christ! (The exclamation mark is not mine.) And he concludes thus: "Wonderful philosophy for a man writing several centuries before Christ!" (Again the exclamation mark is not mine).

Wonderful philosophy indeed! And still much more wonderful than the philosophy and the writings of Procopius is the modern way of writing in a semiscientific magazine when analyzing extensively a historic event the date is guessed by a margin of a thousand years. And the poor Syrian Christian, Procopius (Procopius is a christian name, you know), becomes pagan and a Greek of the preclassical period, writing his history well more than a hundred years before Herodotus, the "Father of History" wrote his.

Wonderful, wonderful indeed the modern art of writing on things one knows so much about!

SAVAS NITTIS, M.D.
Detroit

To the Editor:

I am now writing to let you know that I have consulted the original source of my information and have found that no blame attaches to it. The responsibility for the chronologic mistakes in my article in HYGEIA for March 1939 is exclusively my own, and I would ask you kindly to thank your subscriber for his courtesy in drawing my attention to this mistake. I need hardly say how sorry I am that I have let you, as Editor of HYGEIA, down over this matter. In more than thirty years of medical journalism I have only once made a worse mistake, and that was when I was responsible, about a year ago, for the publication in the British Medical Journal of an obituary notice of a French scientist whose death I had anticipated by more than six months. The memory of this obituary notice, so prophetic, yet at the time so inaccurate, makes me still blush about the ears although the fault on this occasion was really not my own.

CLAUDE LILLINGSTON, M.D.
Bergen, Norway

▲

Swimming

To the Editor:

Since when does the breast stroke keep the swimmer's head out of the water? In your August, 1939 issue of HYGEIA, page 699, Dr. Felderman makes this statement:

"While the exercise (the breast stroke) is limited, it has the advantage of keeping the patient's head out of the water, assuring him of maximum activity with minimum danger of infection to the sinuses."

It has always been my impression that while doing the *side* stroke, the swimmer's head is out of the water, except for the lower ear.

BARBARA A. HYMAN
Baltimore, Md.

It is possible to do the breast stroke without getting even the face wet, by taking shorter strokes. Try it and see.

Good Article

To the Editor:

I must compliment you on HYGEIA, and especially the June Number. It has many very interesting articles, but the one entitled "Getting Ready for Married Life" is one of the soundest and most logical writings I have read. I wish you would print that in pamphlet form for easy distribution. I would order a hundred copies now.

Keep up the good work and the high class magazine you are now editing. I try to get it read by all my people and hope every family will subscribe for it. Best wishes to you. THE REV. LUKE DONLON

Monona, Ia.

▲

Good Number

To the Editor:

I congratulate you on your August issue that has just come to hand. This number alone is worth a year's subscription. HYGEIA is the publication I take and read that materially keeps me from going "haywire." JAMES C. NORMAN

Joplin, Mo.

▲

Oleomargarine

To the Editor:

This is just to thank you for your fine short article on oleomargarine in the April issue of HYGEIA. In view of the untrue propaganda against margarine and consequent unfounded prejudice against it, your article is a distinct service to the poor people of this country, as well as the margarine industry.

I am bringing this editorial to the attention of the margarine manufacturers and, on their behalf also, I want to thank you heartily for the article. J. S. ABBOTT

Washington, D. C.

▲

Articles from Council on Foods

To the Editor:

As an interested homemaker and cook I want to voice my appreciation of the articles from your Council on Foods. Though a bit technical at times, they still are a great improvement on government reports of the same nature. Since all of us cannot specialize in Home Economics, and still we have the responsibility for feeding our families, these articles help immeasurably. Does the Council report only on products submitted by the manufacturers? Or does their research cover most foods on the market? Will these appear in book form when the series is completed?

Again many thanks for the interesting articles.

MARGARET R. ANDERSON

Minneapolis

The Council on Foods reports on food products when they are submitted to it and at any time in the interests of the public. A book containing information on all accepted products is now in process of publication.

▲

Unusual Piece

To the Editor:

We have just seen the article "What the Mouth Can Tell," that was published in the July 1939 issue of HYGEIA.

This article is an unusual piece of literature describing dentistry as a health service. The portrayal of infected teeth and gums, and their relation to general health is clearly set forth in an interesting manner and is understandable to the lay mind.

Every dentist in America would do well to order at least one thousand of these reprints and distribute them to his patients. If articles of this character, published in reliable periodicals on the subject of dentistry, were sent to the dentist's patients, the public would have a better understanding of dentistry as a health service, and the patient's relation to his dentist would be more plastic at the onset.

R. J. RINEHART
Dean, Kansas City-Western Dental College

Kansas City, Mo.

▲

For Regular Reading

To the Editor:

Your magazine is good. I only wish I could make everybody who buys "patent medicines" or any nostrums with little or no value read your magazine regularly. I do not mean to say that I believe all preparations sold by drug stores are worthless, because some are very good; but you know better than I that there are entirely too many that are not worthy of being sold. R. JOSEPH FLOWERS

Harrisburg, Pa.

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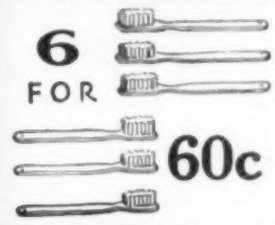

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Harold M. Lambert

Every child should have all correctable defects remedied before returning to school in the fall. In this way only, does he receive his best opportunity to excel in the coming year's school work.

READY FOR SCHOOL

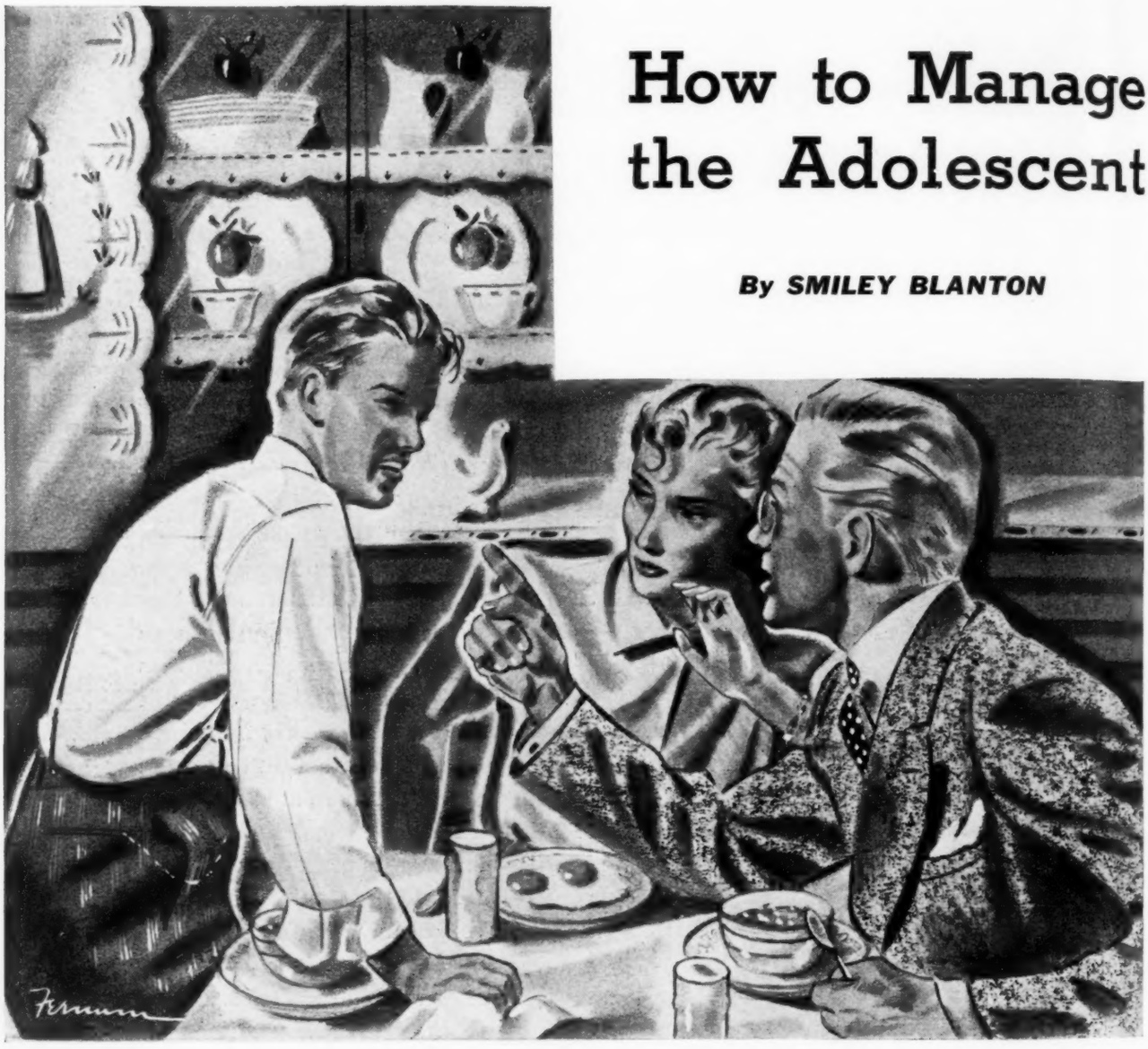
NOW that school days are back again, parents are confronted with the problem of health in relationship to school attendance. Now is the time above all others during the year when it is necessary to know the physical state of the child who enters school for the first time. Now the child comes into contact with numerous other children from various homes. If he is to resist the transmissible diseases, he must be protected as far as modern medicine can protect him, and his resistance must be developed to the best possible state.

A vast number of children—perhaps 45 per cent of those entering school—have correctable defects, including infected tonsils and adenoids, decayed teeth, defects of vision, speech and hearing, minor disturbances of the heart and perhaps beginning disturbances of the lungs. Certainly every child should have a complete inspection before his first year in school and thereafter should be examined at least once each year, preferably just before entering school again in the fall. Many a child has to repeat his grades because he has not been able to take full advantage of instruction as a result of correctable defects. Moreover, a child's entire future life may be ruined by a sense of inferiority and incompetence resulting from a failure on the part of the parents to provide the child with eyeglasses, help to deficient hearing, instruction in speech, care of the teeth and similar matters. Incidentally, the most common defect among school children throughout the United States is the presence of one or more decayed teeth. Actual examinations show that nearly two thirds of all of the children in school have had one or more teeth that show active decay.

It is now possible to make reasonably certain that some diseases will be prevented by the use of inoculations. The two most definitely to be considered are inoculations against smallpox and inoculations against diphtheria. In some states such inoculations are now compulsory. The evidence is clear that children may be protected against these infectious diseases by suitable vaccination or inoculation.

Parents must also be ready to do what they can in the great campaign for the prevention of accidents. Every year hundreds of children are killed or seriously injured in street accidents because they have not been properly taught about such dangers.

When a child leaves home and goes out in the world, he comes in contact with other children who swap apples or candy and who play with knives or other dangerous tools. The little boy will meet other boys who like to catch rides on the back of motor cars or street cars. A warning will not always prevent this possibility, but sometimes it will. Children must depend on their parents or on their guardians to protect them against many hazards, until they themselves have learned where health and safety can be found. Parents and guardians must not fail in meeting this responsibility.



How to Manage the Adolescent

By SMILEY BLANTON

ADOLESCENCE — the period roughly between the ages of 12 and 18 — is characterized by two great fundamental problems: first, the necessity of the child to free himself psychologically from the family. As the late Dr. John Levy put it, "the child must fall out of love with the family." From being a dependent and obedient child, the adolescent must grow up, must stand on his own feet, must learn to trust his judgment and make his own decisions. This growing up process is a painful one for both parent and child, and often there comes a period in which the child becomes aloof, seemingly discourteous and even antagonistic toward his parents.

May I describe a typical scene which is happening in thousands of American homes every day:

Mother and Father are sitting at the breakfast table, and the boy comes in, about five minutes late, and slides into his chair. He is 16 years old, rather large for his age, and he looks a little surly. As a matter of fact, he is really tired and sleepy, having been out to a dance the night before. He stoops over his cereal and begins gobbling it down. His mother tries to make conversation.

"You got in late last night, didn't you?"

"Uh-uh."

"I asked you to be in by 12 o'clock, and it surely must have been way after 1."

No reply.

"Did you have a good time?"

"Uh-uh."

"Whom did you see?"

"Just the old crowd."

"Well, can't you tell us anything that you did?"

"Oh, for Pete's sake!"

Father: "Look here, my boy, I want you to understand that you must be polite to your Mother. I won't have you acting like a boor."

Whereupon the boy says: "Aw, for crying out loud!" and gets up and stalks out of the room.

Sometime later the girl comes down. She is 14 but has the appearance of 16. She is slender, somewhat underweight; her finger nails are tinted ox-blood red, and her face is a dead white, accentuated by her shiny, deep red lipstick. She has curls similar to those the Brontë sisters wore, having just seen a moving picture in which the characters dressed in this fashion; and her eyebrows have been plucked to a thin line. She greets her parents and sits down daintily, and begins to pick at her food. Her father fairly bristles with disfavor, but he controls himself.

Mother: "You really ought to eat more, you're as thin as a rail."

"Oh, Mother, don't begin that line again. I weigh just what I should weigh."

Mother: "What were you doing last night? I knocked on your door, and it seemed to be locked."

"Oh, I was just writing in my diary."

"Well, I heard you moving around till quite late. You know, I really think you ought to go to bed by 10 o'clock."

"For heaven's sake, Mother, don't you realize I'm not a child any more?"

At this point the father speaks up, "When did you pluck your eyebrows?"

Daughter: "Oh, skip it."

"What did you say?"

"I said, 'skip it.'"

"Look here, young woman, you're getting far too big for your shoes. Your mother sacrifices for you, and you aren't even courteous to her, and besides, I won't allow you to go out with those painted nails and your face like that of a clown."

Whereupon the girl bursts into tears, gets up from the table, saying to her father as she leaves the room:

"You're always picking on me. You nag me all the time, Father, and I hate you, hate you."

The mother and father look at each other with melancholy eyes, and both feel that the younger generation is in a very, very bad way.

* * *

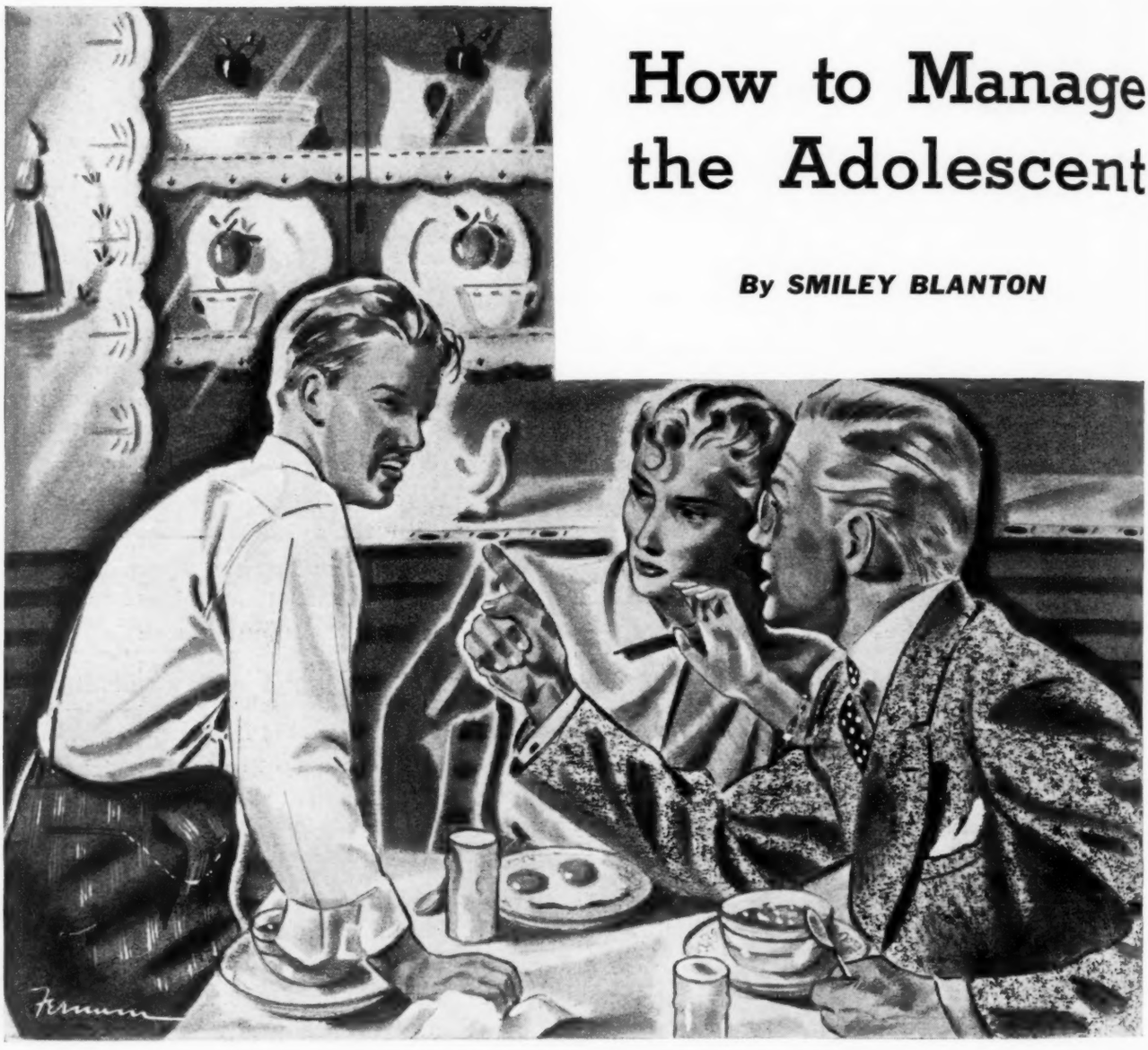
The rebellion which is pictured in this typical scene can often be avoided by the parents' trying to understand the necessity of the child's rebellion, and not only understanding it, but helping him find methods of asserting himself in a way which will not be offensive to other persons nor make him seem foolish.

A high school principal who was almost in despair over the extreme dress and makeup of her feminine students, found a solution for the problem in the following way: A school friend

Some adolescents become ascetic:
They go without an overcoat or hat—

They gasp through a cold shower—

And they "prefer" to sleep on hard beds.



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of hers who had become a famous actress was to appear in the town on a certain date, so she asked her to come to the high school and address the girls on drama. She confided her problem to her friend and requested her to say a few words about dress and makeup. The girls listened to the address earnestly and with adoring eyes.

At the end of her talk, she said, "When I am on the stage, I use the dress, the speech and the makeup that fits the part; but when I am off the stage, I use my dress, my speech and my makeup to express the real 'me'—and none of these things should ever be too conspicuous; they should be subordinate to the personality." And she added, "I hope you'll pardon me, but it seems that most of you have on such similar makeup that I cannot tell you apart. So it can't possibly fit your personalities."

They noted the modesty of the speaker's dress, the simplicity of her speech and the naturalness of her makeup. After the meeting, they crowded around her and listened to her suggestions. Amusingly enough, within a few days afterwards, there was hardly a girl in the high school who wore conspicuous makeup.

There are so many ways in which the child rebels against the family, and one of the most common ways is to take points of view or attitudes which are offensive to the family's way of thinking. If the family is conservative, the children may become violently radical; and if the family is radical, they may become violently conservative.

I know of one case where the father, who is vice-president of a utility corporation, is not on speaking terms with his 16 year old son, a senior in high school, who insists that public utilities should be governmentally owned and who maintains that the president of the company, one of his father's best friends, is a "stuffed shirt."

Another boy of 16, a brilliant young fellow, insists on going to the Juvenile Court and helping the children who get into difficulties. This is an admirable trait on the boy's part, but he often befriends children with unfortunate habits, whom he insists on bringing into his home, to the despair of his parents.

This rebellion of the adolescent from parental authority causes many parents to be deeply disturbed. They are hurt and offended by the refusal of the adolescent to follow their advice and counsel. But, underneath, the adolescent is keenly conscious of the parental attitude, and he wishes, above all things, to have the love, affection and respect of his parents, even when he seems to be rebellious.

If the parents make him feel that he is being ungrateful and unruly in his effort to establish his adulthood, they may create in him a profound sense of guilt, which may in turn make him even more uncooperative and rebellious, or which may crush him and make him become passive and subject to what he feels to be the ideas and wishes and attitudes of his parents.

In 99 cases out of 100, this adolescent rebellion can be best treated by ignoring it, unless the child is actually injuring himself or some one else. However, if the parents really feel that their relationship with their adolescent child is seriously disturbed, or if they feel that the symptoms he is showing are serious—such as marked anxiety or perhaps stuttering—they should in all cases consult their family physician who can either handle the case himself or refer the parents to some psychiatrist who is trained in child guidance.

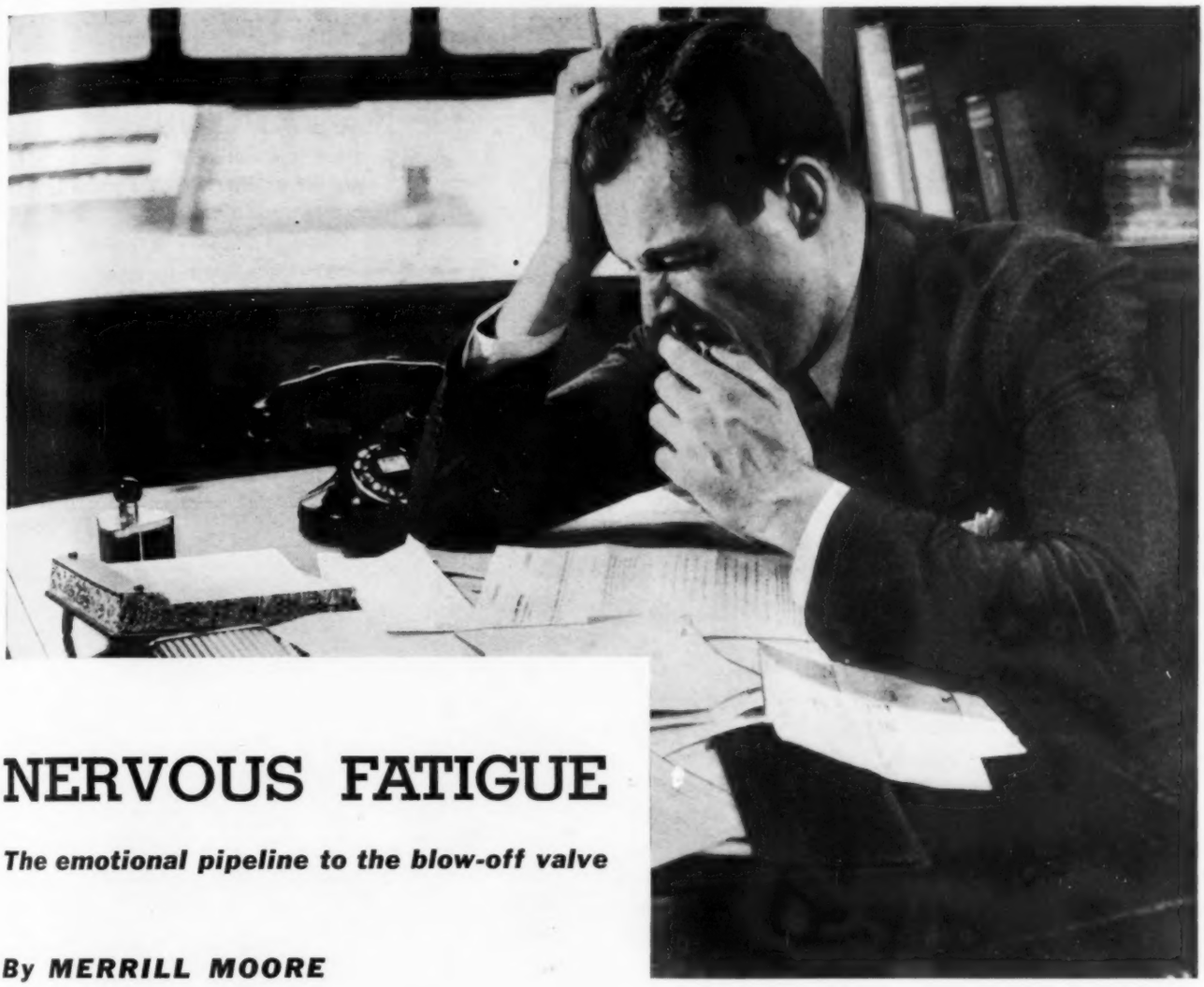
The second fundamental problem that the adolescent has to face is how to master and control the impulses and sensations that come with physical maturity. With an adult's body, but with a child's feelings and thoughts, he is beset by this serious problem of dealing with these adult sensations. He often overcompensates in order to solve this problem.

Some children become ascetic. They want to sleep on hard beds. They insist on going out during winter months without an overcoat; they refuse to wear a hat. "Gloves are effeminate," some adolescents insist.

Here again, though the child's behavior seems strange and even foolish, it is best to let him have freedom to carry out these ideas unless, again, he is doing something which is actually injuring himself or some one else.

It is not uncommon for adolescents to get peculiar ideas about diet. A group of intelligent boys had the idea that fresh bread was bad, that they must eat stale bread or bread made only with water, salt and flour in order that they might exercise their teeth better and keep them from falling out. This group also insisted on taking ice cold baths each morning and on sleeping with their windows wide open with no radiator on when the thermometer was below zero—all of which was to harden them and make them men.

Another general characteristic of the adolescent is his fickleness and changeableness. The son of a friend of mine expressed a desire some time ago to take up photography. His parents were delighted and bought him a rather expensive outfit. He used it for a few weeks and then threw it aside, as he was no longer interested in photography. *(Continued on page 841)*



NERVOUS FATIGUE

The emotional pipeline to the blow-off valve

By MERRILL MOORE

IF, as has been said, community of interest and experience makes people kin, every one at some time or another belongs to the fraternity of the tired. It is a condition that is inevitable; it is the warning of nature that the time has arrived when the physical organism requires some measure of respite in order to be able to resume activity without impairment of efficiency. Fatigue may be purely physical, or it may affect and involve the cerebral centers, which are the higher processes of mental activity. It may be acute or chronic, and if it falls into the former of these two types, one may expect complete recovery after rest.

Too often, fatigue which is long continued and somewhat chronic is ignored by the average person; and, when not given due attention, it frequently results in severe and prolonged complications, which may disturb one's entire life and personality. Fatigue may be either the cause or the effect of certain disease conditions; but it is as the cause that the most important relationships exist in regard to the psychologic changes which can result from chronic fatigue.

There is a limit to our available energy, so all of us eventually experience fatigue; naturally, this limits the activity of the body, since in hard work we use up energy stores faster than they can be replaced. Training or habituation to work can increase the amount of work which can be done; but it cannot delay indefinitely the onset of fatigue. Again, to a certain degree, there is a constitutional factor involved in fatigue. Certain individuals possess great stamina and can perform a specified task quickly and without tiring, while others may approach exhaustion before the close of the same task.

Although the body fatigued beyond its normal limits can produce a tired mind and a worried demeanor, emotional stress and anxiety can produce a tired body, even though no great amount of physical work has been done. These

Fatigue may produce neurotic symptoms in an otherwise normal person. It may also cause aggravation of neurotic traits that are not manifest when the person is rested.

emotions can cause a rundown body, and such a sequence is common among brain workers or professional persons who live constantly under great tension. Moreover, lack of variation in one's work may cause an undue amount of fatigue in a person performing a simple task. It is the unbroken routine of performing the same tasks without interruption which causes the diminution of efficiency rather than of the total amount of energy used. The value of short recesses has been observed in many businesses, and provision has been made for midmorning and midafternoon rest intervals, with a consequent increase in efficiency following them.

The conditions under which work is performed are important in respect to the production of fatigue. Excessive noise, poor or inadequate ventilation and excessive heat and humidity exact a toll from the worker that cannot be measured, since so much of it must be paid for in terms of nervous fatigue. Laird, a psychologist at Colgate University, tested a number of typists, having one group perform their task in the midst of considerable noise and another group work in a quiet place. The first group used 19 per cent more energy than those working in quiet. Likewise, the latter were found to be much more stable and less irritable at the end of the test.

Although the syndrome [a set of symptoms], which constitutes chronic nervous fatigue, may be introduced by any sort of symptom, headache and eyestrain are common. The inability to

concentrate, increasing irritability and moodiness are also notable. The tendency to worry a great deal over trivial matters or to exhibit undue emotion toward simple situations are characteristic of the onset of nervous fatigue. Frequently, a person may attempt to offset this condition by the excessive use of stimulants, but none are effective for any length of time.

Within the last few years a drug has been developed which has limited application in certain carefully selected patients. The drug itself is potentially dangerous, and therefore its use should be directed only by a physician.

Frequently psychiatrists are confronted with the picture of severe depression, anxiety attacks and great emotional instability in a patient without obvious causation. A careful examination into the medical and psychiatric history and regimen of the patient reveals nothing more significant than a long history of definite overwork under trying conditions and of great emotional stress. These patients may suffer all degrees of depression or may vary from simple anxiety and insomnia to what might be taken for a manic-depressive psychosis [alternating periods of extremely high and low spirits]. Anxiety attacks may be associated with indigestion or other physical symptoms, such as palpitation of the heart and difficulty in breathing, or may be accompanied by feelings of great mental anguish or vague and evanescent feelings of impending danger and doom. This type of attack, although experienced in consciousness, may have some of its roots at deeper or subconscious levels of the mind and may require long and careful psychotherapy to reveal to the patient that fatiguing emotions and deep conflict may have precipitated the nervous fatigue which may have accumulated to a disabling extent. Once this is learned and the patient is helped to recognize and accept the cause of his anxiety, it is sometimes a simple matter to help him to readjust his life and activity to permit a budgeting of energy so that similar attacks need not recur.

Fatigue may produce neurotic symptoms in an otherwise normal person. It may also cause aggravation of neurotic traits that are not manifest when the patient is rested. Thus a normal person may stammer and exhibit a serious tic when he is tired, or he may experience morbid fears and preoccupations. These facts are often strikingly obvious in children. The normal individual may find himself impelled to follow compulsive patterns when fatigued, such as checking and rechecking his work unnecessarily or performing needless tasks at great energy outlay. He may find himself attributing motives to others and projecting ideas, for which he himself is responsible. This tendency may grow to systematized delusions, or paranoia, wherein the individual feels that he is the object of criticism, or even persecution, on the part of his family and associates. Even strangers may be blamed for acts whose commission had never occurred to them.

Many women are excessively fatigued during the premenstrual and menstrual periods, and in some this is more marked if the weather is unfavorable. Emotional disturbances and mood changes sometimes accompany this distress. The use of endocrine or glandular treatment may provide the physician with means of limiting the discomfort of some patients at these times.

Perhaps one of the most costly effects of emotional outbursts is the resulting fatigue. Hatred and aggression may be stirred by the actions of another, but since they cannot be directed at the provocative object without inviting social rebuke, they may be turned in toward the self, or repressed. Hard physical work sometimes provides an excellent outlet for repressed emotion. In fact, one method of handling excess aggression among mental patients in many hospitals is to allow them exercise or labor.

Conflict over love affairs, poor adjustment to one's associates, parents and superiors or the necessity for unreasonable adjustment may result in fatigue with serious complications. The jilting of a young lady or the disappointment of a lover provide good examples of emotional conflict and psychologic injury, which may cause not only mental but also physical fatigue. In such situations, lack of appetite, loss of weight, pallor, apathy and listlessness may be secondary to the mental conflict with its anxiety or depression, which is the direct result of the emotional frustration.

Ordinarily, mild depressions are, so to speak, "self regulating" in nature, but they may be considered pathologic when they are unwarranted by general conditions and surroundings. Emotional frustration is a common cause of depression, and when fatigue appears to cause depression it is possibly related causally to the frustration incident to a limitation of customary activities. Increasing irritability, a careworn expression, a feeling of hopelessness, failure and disgrace are common accompaniments of this mood. A person may voluntarily control his mood to a great extent, since the will may be said to "influence the unconscious" in some situations.

Depression resulting from fatigue can be classed among the reactive types of depression.

Its onset may be accompanied by anxiety or agitation. It is hard to say from what deep levels anxiety wells, whether physical, mental, sexual or social or whether the anxiety has a "deeper" or more fundamental basis than does simple depression following fatigue. The complaints may include disturbances that are primarily "physical" or "nervous," such as a tremor or palpitation, together with feelings of discomfort and vague fears. In the type of depression which psychiatrists call affective depression, fatigue may replace the depression and become a symptomatic equivalent. Patients are frequently seen in whom, from the clinical psychiatric point of view, this appears to be the case. In some instances the aim of psychiatric treatment is to get at the psychologic roots of symptoms and to help the patient to see and solve his conflicts and get rid of his symptoms. In the opinion of some, this process is also described as helping personality to mature.

The outlook for the future in cases of depression resulting from nervous fatigue is ordinarily favorable. Recovery is usually certain; but the length of time it takes depends on the patient's cooperation in treatment. Therapy is necessarily on a psychologic basis, since physical measures alone may not be effective. The psychiatrist must first reassure the patient that he can recover, if he is willing to cooperate and participate in the therapeutic program. Many patients who are tired and depressed do not believe they can ever be well and are, often as not, completely discouraged. The history of the illness must be gone over with the patient and evaluated together with the events of his past life, so that the reasons for the depression can be understood by the patient. Knowledge is not necessarily power; but this step is necessary as a stage in treatment, sometimes called the cathartic stage, before the facts are brought up in an effort to deal with them in consciousness and with insight. Once gained, their insight is often a most important part of treatment and a valuable aid to recovery.

A depressed patient may insist that he does not wish to get well, that he wishes to die. Such regressive wishes are difficult to surmount and form definite resistance to treatment. Even when the reasons for the depression are explained to the patient he may be unwilling to accept the explanation. It is important to gain his confidence, else little can be done. If the physician fails to gain the transference of the patient's interest and attention, it is usually wise to refer him to another psychiatrist who may be more successful. The value of the transference lies in the fact that through it the patient identifies himself with the doctor and does all he can to help the doctor realize his aims, in a word, to bring about his own recovery. A thorough explanation of the interrelation of bodily and mental ills is important, and this has to be gaged to fit the intelligence of the patient. In some instances the patient's life must be carefully supervised. Rest, an appropriate diet and exercise are primarily valuable adjuncts to psychotherapy. Occupational therapy may be helpful in some cases.

Those who treat mentally ill patients often have first to teach the patient the elements of psychology, then the psychologic mechanisms of his disease, before the patient can understand his symptoms well enough to try to get free of them or to control them in improved states of adjustment.

One may naturally ask what, in a general way, can be done to prevent the onset of conditions resulting from fatigue. It is obviously impossible to make rules that will be all embracing; but if one were offered, it would be, "Establish a limit of activity compatible with your age, physical and mental endowment, and work at this level to the best of your ability." Ambition that is not commensurate with physical and mental ability is a tremendous strain on one's whole life, for the constant striving toward ends which can never be reached is bound to be exhausting. Nothing can replace an ordered program of work, rest and play in avoiding undue fatigue. None of these phases of activity can be eliminated from the pattern of one's life, and each should be assigned suitable values. During sleep and rest, conditions which will best permit complete relaxation should be assured. The importance of good ventilation is great, and a comfortable bed, preferably a single one, is extremely important. As one removes his clothing, likewise the worries of the day should be removed from the consciousness and not carried into the rest period to harass and disturb sleep with fragments of anxiety dreams.

Regular exercise, even of mild character, is recommended to every one. Exercise seems to favor the storage of blood sugar. The importance of an appropriate allotment of time for rest, work and play cannot be stressed too strongly. Inevitably, when one of these assumes greater importance in the conscious mind than another, work and play always seem to encroach on the time which should be saved for rest.

These simple rules can help prevent nervous and physical fatigue; but the treatment of fatigue, once it has developed, is not so easy. In treating nervous fatigue, the patient must be surveyed as a psycho- *(Continued on page 826)*

How Much Should He Eat?

By EDWIN F. PATTON

PARENTS of "won't-eat" children, before allowing themselves to develop gray hairs and shattered nerves which usually attend this plague of child rearing, should first find out whether they have a legitimate right to worry.

More times than not in such cases, what seems like a tremendous problem is only one of nature's little normal variations.

I do not know of a single case in which a child has actually starved himself enough to do any damage, unless he is afflicted with some definite disease. Much more trouble comes about from overfeeding, or attempted overfeeding, than ever resulted through voluntary food refusal.

Reams of material, written and lectured, have been presented to distracted mothers, directed toward helping them to train, coax, cajole or force their "picky" children to take more food. Much of this material is excellent.

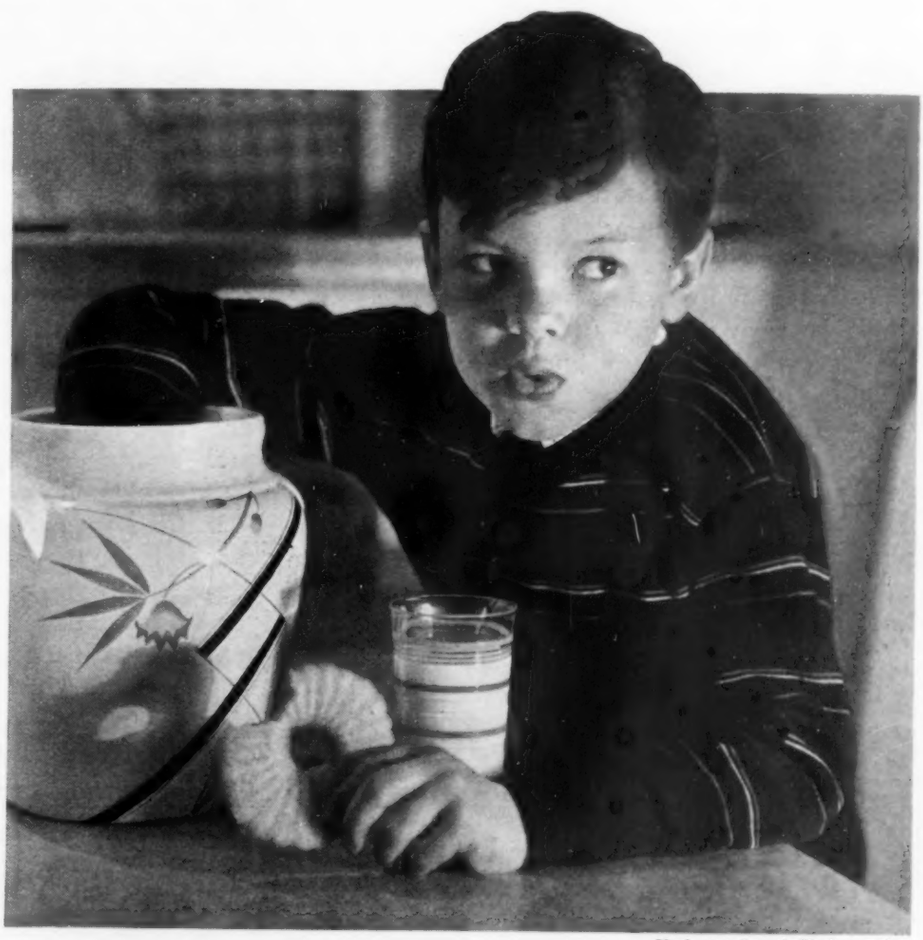
Behind the whole problem, however, lies a fundamental question, one which must be answered before any of the methods advocated can be put to application.

"How can I get my child to eat more?" is, after all, a secondary consideration.

"How much should my child eat?" is the point of primary importance.

The answer to that is like Lincoln's answer to the question, "How long should a person's legs be?" Legs, according to Lincoln, should be long enough to reach from the body to the ground. Food intake, according to present day authorities, should be sufficient to maintain nutrition and energy at a plus level and to provide abundantly for growth and replacement of tissues. The right length for legs cannot be quoted in inches, and the right quantity of food cannot be quoted in ounces or servings or calories. Both depend on the makeup of the individual to whom they appertain.

Children vary widely in their fundamental food requirements. Even two in the same family may have entirely different quantity needs. Such factors as age, sex, body type, activity, glandular function and physiologic efficiency all enter into the picture. Of these the most important are body type and physio-



For the strong and healthy child, quantity of food nearly always regulates itself.

Underwood and Underwood

logic efficiency. Of course there are averages to which most children roughly conform. But while these averages are helpful in some respects, they are likely to be the chief source of consternation when they are not met. For that reason they are not to be taken too literally.

When the weight-height-age charts were new, countless unnecessary heartaches were produced among mothers whose children graded very far from average. It was not long, however, before we all learned that such tables are to be referred to only casually, as a single criterion among a dozen equally important criteria which need to be applied in appraising any individual child.

Similarly, if one child eats half what his sister or his playmates eat, Mother is likely to worry—most frequently without cause.

We are told by laboratory workers that, starting with birth, caloric requirement per pound of body weight gradually declines throughout life. The average need of a newborn baby is about fifty calories per pound. This decreases through the first six or seven years to about thirty-five calories per pound, which is more or less constant till after puberty. The decline sets in again at that time, and when the age of majority is reached something like twenty-five calories per pound is all that is needed.

The reasons for this are chiefly two: First, an infant has relatively more skin surface per pound than an adult, which means that loss of heat by body radiation takes place much faster in the babe than in the grown-up. Heat to replace this loss requires food-fuel. Second, growth uses up a great deal of food substance not needed when growth is complete.

But even at that, the averages given are not final for each individual. Averages are made up by compilation of figures on many individuals, and there are naturally many well above and many well below the final quotation.

This means that we must regard these figures then *not* as Normals, but as Averages. Averages may be plotted on paper as single lines. But normals must be considered as fairly wide zones, extending in both directions from the lines of average.

There is no normal for *every* child. There is only a normal for *each* child.

Whether a given child is satisfying his own normal requirements must be determined by a separate study of that child himself. And the first thing to do in this study is not to list how much food enters his system but to find out what the food that does get in is doing for its consumer.

Before you compel him to eat, settle one point first: Is he really undernourished? If not, let him take only what he will eat without your forceful measures. The amount each child should have depends on many factors, and his satisfaction is frequently the best criterion.

Point Number One to settle: Is the child really undernourished? To determine this, preliminary inquiry must be made about the body build and constitutional type of the parents, even the grandparents, and whom the child most resembles. Then, what was this particular similar ancestor like at the same age as this child? Life history repeats itself with surprising accuracy in these situations.

Why yes, his daddy was an exact duplicate of him at this age. And look at Daddy now! He takes a 49 inch belt!

The wiry type child will not fatten, no matter how much food is stuffed down him. He will get sick from overfeeding before he will put on a pound. Time alone will cause him to fill out.

If his color is good; if his energy is sufficient so that he has some left over and is not completely exhausted at bedtime; if his growth is consistent; if his disposition is good; if he has a layer—however thin—of fat under his skin; if his posture is fairly erect and his foot arches are reasonably good, then his nutrition is normal *for him*, and regardless of how much food he is taking, it is enough!

If the answer to any of these is unsatisfactory, a search for the cause must be made.

Anemia, overrapidity of growth, overactivity producing chronic fatigue, mental maladjustment, digestive disorder, constipation, diseases of the intestinal tract (such as chronic appendicitis); constitutional diseases (such as asthma); focal infections (tonsils and adenoids), or bad dental conditions—any or several of these may be the basis of the case if the child falls short of desirable condition. All these are causative of lost appetite and must be corrected before food is forced. If they are corrected, there is

Black Box

practically never any need for forcing food. The situation takes care of itself.

For the well, strong, cheerful child, quantity of food practically always regulates itself. Even if a child "eats hardly enough to keep a canary alive," if condition in relation to body type is good, he is getting enough. For it must be remembered that there is a vast degree of difference in efficiency of physiologic processes between individuals. Just as one engine might use two or three times as much gasoline as another to produce an equal amount of horse power, because the first engine wastes or fails to utilize more gas than the second, so one human body may digest, absorb and utilize much more of the food it receives than does another.

On the average, at least 25 per cent of available nutritive substances in food passes through the body and is discharged unused. This means that some individuals probably use only half of their food, while others use as high as 95 per cent. And after the food factors are absorbed, some bodies use them more efficiently than others. All of which accounts for a great deal of the variation in fuel needs.

It is hard to convince mothers of small or thin or wiry type children, no matter how well they are, that these little folk are getting all the food they require, because they are making twice as good use of what they do get as the next child. These mothers are likely to consult two or three specialists before they finally become convinced—or resigned—to the realization that their children know better than they do how much food is enough. The children's information comes from the most reliable of all sources: nature. By forcing, mothers may get so far ahead of the game that they are poking down tomorrow's, or next week's dinner today; so no wonder it is not relished.

For such children, *balance* of diet is the essential. Whatever small quantity they take, if distributed suitably among milk, cereals, vegetables, fruits, meats, eggs and fish liver oil, their requirements will be adequately answered in the exact way nature desires them to be answered.

By FRED R. ADAMS

MODERN DENTISTRY is PAINLESS

"PAINFUL as the dentist's chair!" The nonchalant use of this phrase as an accepted simile is both amazing and shocking, for it implies that the dentist's technic has not improved one jot in the last hundred years. Fortunately, that is not true, in spite of the fact that seemingly well informed as well as ignorant people still couple dentistry with pain.

Actually, in the modern dentist's office, pain is much outmoded. Until recently, painless dentistry was largely a myth, a phrase used by charlatans and quacks to lure unwitting victims into their fly-by-night offices. But today, every major dental operation can be performed without the least pain to the patient. Your dentist has a variety of local and general anesthetics at his command with which he may make his work entirely painless. Even the slight hurt of the hypodermic needle with which the anesthetic is injected, in order to deaden the nerve connecting the tooth or teeth on which the dentist is to work, is avoidable because there are substances known as topical anesthetics which may be applied at the gum surface where the needle will enter.

Dentists have known how to extract teeth painlessly ever since 1844, when laughing gas, or nitrous oxide, was discovered, and by the far simpler means of local anesthesia, since 1884, when Karl Kohler first demonstrated the use of cocaine.

The trouble with nitrous oxide as a banisher of pain in the early days of cumbersome apparatus and imperfect technic was that it often caused nausea and other complications in the patient. Modern apparatus which allows the combination of oxygen with the nitrous oxide and permits a prolonged anesthesia, when necessary, makes it the ideal anesthetic for many extractions and other operations of a surgical nature. It is also possible with this mixture of gases to induce an incomplete stage of anesthesia called analgesia, which is of value in preventing the pain incident to operative dentistry.

When it was found that cocaine could be used by simply injecting it into the tissue near the tooth, the dentists were highly pleased. Unfortunately, it was soon found that cocaine, too, had its drawbacks as an anesthetic, not the least of which was the possibility of cocaine poisoning and the resultant heart failure. So the search for the ideal anesthetic continued, and in 1905 two scientists, Einborn and Ehlfelder, produced novocain, or what American dentists now call procaine hydrochloride. This anesthetic proved to be a tremendous improvement over cocaine; but it also produced a reaction, "jitters," in some people and was not considered entirely safe for those suffering from certain kinds of heart disease.

In the meantime, during the past ninety or hundred years, dentists here and there have tried all sorts of other drugs as a means of inducing local anesthesia. For pulling teeth, they might have continued to use the pain killers which they already had, although there was plenty of room for improvement in these.

But their search also included drugs and other means of making painless every dental operation, especially those involving the dentine or the extremely sensitive pulp, which is just a cluster of nerves and blood vessels. It seems almost as though every item in the pharmacopeia [book listing the products used in medicine] has been used at one time or another to desensitize teeth or stop the transmission of pain via the nerves in the jaws.

And there always has been a sizable group of dentists to make extravagant claims for each new method as it appeared. In the 1890's, for example, a large portion of the dental profession used a method called cataphoresis, which employed electricity, primarily as a means of deadening the dentine and pulps of teeth. However, this method of desensitizing dental tissue with the aid of an elaborate machine, electrodes and what-not was a fad, and in those days no office was complete without a cataphoric outfit. I often wonder what became of these, for it is a curious fact that in several supply houses where I have made inquiries, cataphoresis seems never to have been heard of.

After this fad had blown over, there followed an era during which a miscellaneous assortment of drugs, running the gamut from sulphuric

Milwaukee Journal

For deadening pain in part of the upper jaw, the drug is administered in this manner.

acid to bicarbonate of soda, was used for the purpose of benumbing teeth. Always hot air was blown on the tooth before and after the desensitizers were applied, in order to dehydrate or dry out the dental tissue, and this was probably the real reason for the seeming success of the drug used. It is perfectly easy to deaden any tooth by dehydration; but too often the tooth is not only deadened, but killed.

Naturally, when these harmful consequences were bared and made plain, dentists turned to something else, which they felt was safer. And so for a time, ethyl chloride, applied locally, led the list of popular desensitizers. There is much value in the use of this liquid, and under certain conditions it is used with good results.

Ever since the beginning of dentistry, there has been a never-ending search for means of controlling pain effectively and efficiently. Once in a while, dentists have put their money on the wrong horse, backing methods and substances which sometimes proved to be half-hearted or downright harmful pain killers. Each was sure that his way was best, and through its universal use the millenium in painless dentistry would be attained. But like all other scientists, dentists are only human, after all, and their occasional mistakes in judgment must be excused.

Your possible notions to the contrary, dentists are not sadists, and groans and shrieks of pain do not warm the cockles of their hearts. The fact is that a patient's sullen complaint that he is being hurt upsets the dentist to the extent that he loses a good deal of his efficiency. So it is in his own interest, as well as yours, that he today uses a large assortment of anesthetics and desensitizers in his work.

New anesthetics and improved formulas of procaine hydrochloride solutions give much more satisfactory results than were possible with the old mixtures. To the dental patient this means quicker action of the anesthetic and insurance against postoperative discomfort.

A new anesthetic has been developed quite recently which is worthy of particular mention. Its chemical name, worthy of being used in the best radio spelling bees, is para-amino, mono-isobutyl benzoate hydrochloride. Already, over

8 million injections of this new drug have been made, and it gives every indication of being a decided improvement on any other anesthetic now available to the dentist.

Not only is the onset of anesthesia swifter; but this new preparation is more thorough, apparently entirely safe and so stable that boiling will not spoil it. What is more, no bad effect on the heart has been observed in any of the numerous trials, so that it probably may be used with impunity on patients with heart disorders. Nor has this new anesthetic any cumulative effect, for when the blood stream carries it to the liver, it is broken down into simple, almost nontoxic substances. And so the development of this new material marks another step forward.

On the whole, dentists today are doing their utmost to make their work not only painless but comfortable to patients who visit their offices. As in every walk of life, however, there have been in the past some laggards in the dental profession who did not keep up with the times, and it has been these backward few who have tended to perpetuate the erroneous belief that dental work is always unavoidably painful.

They belonged to the clan of I-don't-believe-in-that, rarely using an anesthetic for an operation other than the extraction of a tooth. They consoled their patients in exactly the same manner as did their professional forebears a hundred years ago, saying, "It's too bad that this hurts, but there is nothing we can do about it. You'll just have to grin and bear it." The poor patient sometimes did bear it but never grinned.

The fact is that no patient need tolerate as much pain as formerly in the dentist's chair, for there are means aplenty whereby many twinges can be escaped. Therefore, much of the suffering due to operative dentistry is today altogether unnecessary; modern anesthetics plus a moderate amount of skill and knowledge on the dentist's part make this possible.

Yes, contemporary dentistry has done wonders in its determined and successful attempt to eradicate pain from its realm. Yet though physical anguish has been uprooted at last and dismissed forever, the difficult matter of doing away with the psychic reaction of fear and entirely imagined suffering remains still unsolved.

Fear of being hurt is a characteristic trait of human beings, and during the milleniums of evolution it was invaluable for the continued existence of the race. But the dread of possible pangs may have its dangerous consequences. I think that more people are deterred from making needed visits to their dentists because they fear that they may be hurt than for all other reasons combined. And knowing how general good health hinges on the condition of the teeth, the problem of how to remove this unwarranted fear from the mind of the public assumes highly important proportions.

Although much dental work is or can be painless, few people are aware of this. About three years ago the discovery of a new method for desensitizing teeth prior to dental operations was announced, and enthusiastic press comments gave the misleading impression that control of pain was something unheard of heretofore. Actually, and with all respect to the brilliant mind of the discoverer, this was but the latest of a string of pain preventives, though the press and public gave all indications of total ignorance of this fact. Beyond a doubt the crying need is for a program of general enlightenment in regard to what dentistry has accomplished and can do.

A dentist sometimes gets a finicky patient who howls loudly when he or she feels the slightest prick of the hypodermic needle, but that probably doesn't hurt any more than eyebrow plucking. A woman will regularly submit to the plucking and to the discomforts accompanying, say, a permanent wave without so much as a murmur of protest, for the simple reason that in her mind there is no strong association of beauty parlors and pain. The anticipation of pain at the hands of the dentist turns the stoic seeker after beauty into a complaining and suffering dental patient, which makes it only more difficult for the dentist.

Association or imagination can play weird tricks. A piece of ice will appear to sear the skin just as though it were a red hot ingot, if you believe that what is touching you is red hot. And for that reason I am inclined to think that a good deal of the ill fame of the dentist's office as a veritable torture chamber is based on overstimulated imaginations of some nervous patients.

Too often it is an arduous task to convince a distrusting and keyed-up patient that there are immediate means at hand to minimize pain. But it is worth all the trouble, when that man or woman finally does see the light. The reassured patient is the ideal patient, for with expectation of pain gone, many dental operations, surprisingly enough, become possible without anesthesia.

Often some diversion will cause the patient to forget imagined pain. One dentist uses a radio earphone attached to *(Continued on page 840)*

A School Man Looks at Parents

By HAYDN S. PEARSON

ALMOST a million of us in school work are charged with looking after your children part of the day about 180 days a year. This year we have 26,367,098 pupils in the public elementary and secondary schools of the nation. It will cost approximately $2,000,000,000 to run these schools.

Perhaps you had not realized that the high schools have grown from a place where in 1900 only 8 per cent of the secondary age pupils were in school, to the present enrolment of 70 per cent of all secondary age pupils. This means that in 1900, only one child in less than ten between the ages of 14 and 18 was in school; today seven in each ten are there. It is no wild prophecy to state that in another decade or two, 90 per cent of all children will go through high school. Then, indeed, we may come close to our ideal of "all the children of all the people" receiving an education, based on the hard-won principles of democratic schooling: free, compulsory, nonsectarian, publicly financed and publicly controlled.

Parents have been turning over more and more responsibilities to the schools. We have health services of various sorts, clinics, both physical and mental, physical education, music, hobby clubs, special classes, home making and vocational work.

In addition to these, some parents feel the schools should take over problems that properly belong, at least partially, to the home. Parents whose 5 and 6 year old children are problems in the home say to us, "Here, take my children, and train them." Many a sigh of relief goes up from parents each fall, for their children are entering school again, and their personal responsibility is greatly lessened.

After a dozen years' experience, as a teacher both in public and private schools and now as an administrator of a junior high school, I would say with all earnestness to parents: "The best kindergarten in the world is a good home training during the first six years. You can instil qualities in your child which give him a background for success in school. We shall do all we humanly can for your child. That's both our duty and privilege. But you, as parents, must give honest training, which means happiness and success in life terms."

First of all, a child ought to learn the meaning of discipline at home. This doesn't mean harsh treatment. The old days of the woodshed and razor strop are gone! Neither do I want to go on record that a spanking has no place in rearing a youngster!

You know children who are well disciplined, and you also know some who make nuisances of themselves, who beg, tease and go into tantrums until they get their way. The first group is getting training which will be of life value to them; the second group will have hard lessons to master before the path straightens out. Indeed, there are plenty of adults who show these juvenile traits! Parents ought to keep in mind one fact: Though they do not make a startling success in managing their children, the children devote their best talents in learning how to manage their parents! Every slip in discipline on your part is another inch to your child's measuring stick of you.

The extreme progressives in the field of education have done a good deal of harm, I feel, with their insistence on the "sacred personality of children" and its untrammeled development. It is to be hoped that some writers and speakers will begin to give a little attention to the sacred personalities of parents and teachers! Reasonable conformity to accepted methods of social living is demanded of all of us—unless we're

geniuses. As far as that goes, many parents may think their children are remarkable! However, their children will more likely be remarkable if they teach them the meaning of discipline.

Second, as we take your children in school, we are glad if they have been taught to work. Too often, mothers take the attitude, "Mary and John will learn that life is hard work soon enough! Let them have a good time while they are young." This is a dangerous and pernicious philosophy.

If you agree with me that the purpose of education in all its phases—home, school and other social contacts—is to teach pupils to lead happy and useful lives, then it seems to me that learning to work is one of the basic principles of life. The world owes no man a living in spite of the loose talk of the moment. Too many young people who have graduated from school during the recent hard times have grown cynical. The WPA has become a goal instead of a stop-gap. An alarming acceptance of federal bureaucracy is rife, covering the range from medicine to kindergartens. Parents and schools together must combat this ruinous philosophy.

Not many generations ago in our nation, a knowledge of the so-called "three R's," and how to use a gun and a hoe, plus a willingness to work equipped a man to succeed in life. Professor Spaulding of Yale prepared a paper a few years ago under the awesome and blunt title, "The Progressive Debilitation of Secondary Education." If I interpreted it correctly, his theme was that the schools were doing an increasingly poorer job in getting boys and girls ready for actual living.

This is still a working world. It will be a long time before we press a button to do every job. I could wish, in many ways, that all boys had to milk a cow night and morning, that they had to feed hens and pigs and fill an ever empty woodbox. I could wish that girls had to help make butter, tie quilts and make candles, soap and clothes. These things meant, in essence, that youth learned to work. It's the responsibility of home and school to teach this life truth.

Third, I wish that all parents would teach their children the value of money and that honest money is the result of work. I wish they would teach youngsters how to plan its use, how to spend and how to save. Many a young stomach has been ruined because Johnny and Mary have generous allowances and eat huge quantities of sweets at the wrong times. Aside from ruined digestions, wise use of money—and the fundamental conception that it is the payment for work—is a lesson that all of us need. Many adults handle this tool of life unwisely. The mushroom growth of personal loan companies in the nation is a sad commentary on our poor planning. If parents will take the time, even in this streamlined age, they can find tasks about the home and grounds which will teach their children this vital concept. Little Bobby who gets a nickel for certain tasks and who

"Let them have a good time while they are young." This philosophy, popular with parents, is a dangerous one.

has been taught to save a penny, give a penny to Sunday School and to plan how to use the other three pennies is many jumps ahead of Johnny who gets a quarter as a matter of course, and who has no plan for its use.

Next, as a school man interested in getting boys and girls ready for life, I wish parents would put more emphasis on good manners. This doesn't mean that children need be stilted, formal, miniature editions of puritanical adults. A repressed child is as great a crime as a young devil who has no idea of consideration for others! You know children who are real youngsters, but who also are being trained in the fundamentals of good manners. You know others who are by common consent of the neighborhood called "brats." Since life for most of us is a matter of rubbing elbows most of the time with some one else, we need to teach youth early in life this vital lesson: Good manners are the lubricant of our complex society.

Fifth, parents ought to teach their children self reliance. This mental trait is one of the corner stones of happy living. Many mothers have made life's road harder for their children because the apron strings were tied too tightly. There is a happy medium here, as in all these matters, which means sane and forward training for children. The family who believes their child is in the right all the time and the neighbor's child always in the wrong is doing a great harm to their child. Encourage your child to stand up for himself. Don't be too solicitous about his squabbles and bruises. "Motheritis" is a disease of far reaching effect. Some people of mature age are still dependent. You probably know them.

Sixth, as parents, set up an environment in the home which encourages learning. Take time to answer questions, even if it may seem as though there were no end to them! Remember that a great, mysterious world is opening to a child's mind. As far as you can afford it, buy good papers, magazines, books and an encyclopedia. Learning is not an exclusive prerogative of formal schooling. The more you encourage the trait of curiosity, the more your child will learn.

Last of all, to develop your children wholesomely and rationally, take time to play and work with them. The saddest words of tongue or pen in a child's life are, "My parents haven't time."

Since a happy home life is the apex of living for most people, there is the obligation to train youth in this respect. If parents don't take time, it does something harmful to the mental and spiritual growth of youth.

The school and the home have a joint objective: to prepare boys and girls for happy and useful lives. It's an all round task, physical, mental and spiritual. Only by working together in cooperation can we more nearly achieve our common goal.

This still is a working world. It might yet be well to have boys fill the ever empty woodbox and girls help make butter and soap.

FRIENDLY BACTERIA

***The study of these tiny organisms has led to enormous progress in protecting the public health, in curing disease and in flavoring foods, says* PAUL G. HEINEMAN**

Ellis O. Hinsey

When the farmer harvests a crop, certain substances are thus removed from the soil. If this material is not replaced, the soil rapidly becomes nonproductive.

A BACTERIOLOGIST was approached by a friend with the following remark, "I should think you would be afraid to touch anything, because bacteria are present everywhere." His reply was, "I have the advantage over you as I know pretty well what I may contact with safety and where danger lurks."

The fear of bacteria is widespread among the population. It may be in epidemic or even pandemic form and may be designated as bacteriaphobia. The very word "bacteria" means disease and disaster to a large proportion of the populace. However, this is a misapprehension. Probably there are less criminals among the bacterial population than among human beings. While we protect ourselves against criminals by placing them in jails and penitentiaries, we protect ourselves against bacterial criminals by destroying them whenever possible.

The study of bacteria has led to enormous progress in the protection of public health. Drinking water is filtered to remove bacteria, or it is treated with chlorine to destroy them. Food products, including milk, are prepared with utmost cleanliness and care. The workers must be healthy, because man is always the chief offender in spreading disease among his fellows.

But there is another aspect of dealing with bacterial criminals.

It has been suggested frequently that humane treatment of prisoners may influence them to mend their ways and to become of real use to humanity. Similarly, it has been possible to make use of disease-producing bacteria, called pathogenic, to make them extremely useful. Uncontrolled fire is one of the most destructive forces, when it finds suitable fuel. But when it is tamed and reasonably fed, it becomes a necessity. The following example will illustrate similar conditions in regard to bacteria. The organism which is the cause of diphtheria is rather fastidious with respect to its food supply. When such food is furnished in a laboratory, and when plenty of fresh air is available, the organism grows luxuriantly, and it produces the toxin which causes the symptoms of diphtheria. By inoculating horses with this toxin, the animals respond by producing a substance in their blood which neutralizes the toxin. This blood is refined artificially and has the same neutralizing effect on patients suffering from the disease. Since the discovery of this antitoxin by Behring and Kitasato in 1893, an enormous number of lives have been saved, and much suffering has been spared. By means of tests made with a diluted toxin it may be determined whether or not an individual is susceptible to diphtheria. The same toxin, if it could be injected in small enough doses, would stimulate antitoxin formation in human beings without doing harm and produce an immunity, which may last a lifetime. It was found necessary to add antitoxin to this toxin to neutralize it and make it safe until a means was found of treating the toxin itself to produce toxoid, a substance safe but potent in stimulating immunity.

There are a few other serums which have proved successful, such as tetanus and scarlet fever serum, and promising work is being constantly carried on to increase their number.

Some pathogenic bacteria are cultivated for production of bacterial vaccines. By destroying the bacteria at moderate heat, the immunizing potency of vaccines is not lost. Treatment with these products is followed by development of immunity. During the great war, when soldiers were systematically inoculated with bacterial vaccines, many lives were saved and much disease prevented. It is said that the World War was the first war in which less life was lost by disease than by bullets. Thus it appears that even the criminals among the bacterial population can be put to good use. Disease may sometimes be conquered by using its own weapons.

Just as many persons occupy themselves with the preparation of food, improving on its palatability, wholesomeness and digestibility in their work, so there are many bacteria which carry on similar work. These microscopic organisms are hard workers. They are productive and do not believe in wasting time by sleeping; as a matter of fact, they work faster and better in the dark than in daylight.

Yeasts produce alcohol from carbohydrates. The alcohol is converted into vinegar by acetic acid bacteria. The flavor of butter is largely due to the activity of bacteria. The lactic streptococcus increases in number in milk and produces lactic acid from milk sugar. The acid then precipitates the casein of milk so that buttermilk results. Buttermilk is more stable than sweet milk, is wholesome and easily digestible. There are other sour milk foods, which differ according to the kind of organisms present. Yoghurt, a curdled milk, is prepared by the Bulgarian bacillus, Metchnikoff's so-called bacillus of long life. Fresh milk, boiled down to one half of its volume is inoculated with a small amount of a previous batch of yoghurt. The milk is allowed to ripen, and a delicious food is produced. Other milk foods are kephir, matzoon and tätté melk. Kumiss is the result of acid-forming bacteria and of a fermenta-

tion produced by yeasts. Salt-rising bread is prepared by a member of the group of lactobacilli, an acid-forming bacteria.

Hard cheeses consist of partially digested casein, the casein having been precipitated from milk by the lactic streptococci. Differences in hard cheeses are due to the activity of different bacteria. The well known Emmenthal cheese is produced by four types of bacteria. These types work successively, and the skilful cheese maker sees that the groups succeed each other in proper sequence and that they do not interfere with each other.

Soft cheeses are prepared from curd precipitated by the lactic streptococcus. Flavor, texture and digestibility are then cared for by fungi. Thus Roquefort cheese is ripened by a green fungus, Penicillium roquefortii, and Camembert by a white penicillium. Probably in the near future all cheeses can be produced in the United States. Even at the present time, cheeses are produced by inoculating curd with cultures of the proper bacteria and fungi.

How much comfort and enjoyment would we miss, if it were not for the activity of these little friends, the micro-organisms!

When the farmer harvests a crop, when vegetables are taken from our gardens, when berries are picked from plants or bushes, the foods thus obtained remove their substance from the soil. If this material is not replaced, the soil rapidly becomes nonproductive. Farmers have learned what to do in order to replace the necessary material in the soil. However, this cannot be accomplished without the assistance of uncountable numbers of bacteria. Likewise, the bodies of animals and dead plants would remain undecomposed for a long period of time were it not for bacteria. The manure which is placed in the soil is broken down by bacteria. Proteins are converted into ammonia and cellulose, and carbohydrates furnish carbon dioxide. Ammonia and carbon dioxide unite to make urea. Urea is then oxidized to nitrous acid, and this acid is further oxidized to nitric acid. In order to complete this process successfully, two procedures are necessary: First, place lime on the soil. This alkali binds the nitrous acid to form nitrites. If the acid is not promptly neutralized, the activity of the bacteria ceases. The nitrites thus formed are converted into nitrates, which are fundamentally necessary as food for vegetation.

Second, by plowing, oxygen is supplied to the soil. Air is thus made accessible, and the bacteria utilize the oxygen of the air to oxidize urea into nitric acid. Compost heaps [fertilizer] undergo a similar decomposition. However, bacteriology has taught that human excreta should never be used for manure, because they may contain the germs of intestinal diseases. It has been found that the bacillus of typhoid fever, for example, may live in the soil for more than 500 days. It has happened that typhoid epidemics have resulted from infected soil which has washed down into drinking water.

If an examination is made of the roots of legumes, as clover, vetch, pea, bean and lentils, it is discovered that there are many small nodules on the root branches. Microscopic examination has shown that these nodules are filled with bacteria, the so-called nodule or tubercle bacteria. By symbiotic partnership, or close association, with the plant, atmospheric nitrogen is assimilated, and thus the proteins of beans, peas and lentils are formed. Many farmers take advantage of this process by planting the vetch with other crops, as wheat for example. When the wheat has been harvested, the vetch is plowed under, and thus proteins are introduced into the soil. These proteins replace, in part at least, the food removed by harvesting the crop.

It becomes evident that we owe an immense debt of gratitude to the soil bacteria for enabling us to grow good food repeatedly from the same soil.

Bacteria are responsible for the purification of sewage and sewage-polluted streams. Here again decomposition of proteins and carbohydrates produces urea, which is then oxidized to nitrates. The numerous surviving bacteria furnish food for protozoa, and these in turn form food for larger animals. By this time the water is purified sufficiently to make it inhabitable for fish, and thus the original pollution of streams is again converted into food for man.

Sewage pollution is now accomplished in shorter time than previously by a different group of bacteria. This is known as "activated sludge."

Pure cultures of various types of bacteria are commercially available. Thus, milk foods are prepared by using cultures, the products being invariably of the desired quality. Cheese making likewise is facilitated by the use of pure cultures, and soil may be inoculated to foster fertility. Scientific study will no doubt result in the addition of cultures to those now available. The use of pure cultures of yeasts has already placed production of alcoholic beverages on a scientific basis.

H. G. Wells has stated that there are no bacteria on the planet Mars. This is probably true, judging by what is known of physical conditions on that planet. At least, *(Continued on page 853)*

Your "Daily Dozen" During Pregnancy

MOST women know that physical health during pregnancy is of utmost importance. The future mother's status affects not only her own well-being but also that of her baby. More and more emphasis is being placed on prenatal care, including regular examination, correct diet and other items of care. This is as it should be. The wise mother-to-be consults a qualified physician early in her pregnancy and secures his advice at such regular intervals as he specifies.

Efficient and economical use of the body is an important asset at a time when fatigue and strain must be avoided. It is especially necessary to use the feet properly when walking so that added weight is carried correctly and with the least possible strain. By so doing, the prospective mother avoids much unnecessary backache and fatigue. It should also be remembered that any lifting required may be done with greater ease and efficiency if the back is kept erect and the knees are first bent, then straightened, as the lifting is done. The stress is thus thrust on the legs, and the lower back is protected from the possibility of strain.

By MIRIAM T. SWEENY

In general, clothing worn at this time should be loose and free. The choice of shoes, because frequently a larger size is necessary, warrants special attention. Shoes of the proper length and width, with low heels which have a broad base, will contribute greatly to the comfort and success of the childbearing period. Such shoes make for stability in standing and walking, eliminate foot strains and lessen the danger of falls or of sudden twists in the trunk, due to turned ankles.

It is most important for the sake of both mother and child to assure good posture, circulation, elimination and muscle tone. During the first four months of pregnancy it is advisable not only to take exercise but to make sure that it will contribute to these four things. Choice of recreation should be made from those activities that have been habitually indulged in, if approved by the physician. Swimming and outdoor bathing where there is danger of waves hitting the abdomen with undue force should be avoided.

It is not necessary to make the period of pregnancy a dull one. The more normal it is allowed to be, the better. Therefore, unless there is some reason why the doctor advises against sports and other recreational activities, it is well to enjoy them, at least through the fifth month. However, always discuss this point with the doctor, and always use judgment regarding fatigue.

There are several points to be considered before suggesting definite exercises.

Supervision

Exercises should be given only at the recommendation of a physician and should be carefully taught and supervised by an experienced person who will see that strain and overexertion are avoided.

Time

The best time for exercise at home is midmorning or midafternoon before rest periods, and it should not interfere with sports or other outings in the sunshine.

Place

If possible, the room in which these exercises are done should have fresh air and sunshine.

Position

As pregnancy progresses, weight increases; foot muscles are apt to become less able to support the superstructure adequately. The logical position for exercises, therefore, is off the feet and preferably on a fairly thick mattress put on the floor to eliminate sagging. Exercises done off the feet will be far more beneficial than any done in the standing position, as many foot troubles are started at this time by overstraining relaxed foot musculature. Continued overstrain is apt to result in fallen arches, which would only add to unnecessary discomfort.

Choice

The choice of exercises depends on the condition of the woman before she becomes pregnant. If she is a naturally flabby, weak muscled person, she should begin very gently to increase her muscle tone, especially in her lower back. If she is naturally an active, muscular person, she will do exercises that will preserve her naturally good tone.

Unlike other regulated series of exercises, the ones during pregnancy decrease instead of increasing in strength, after the fourth or fifth month.

Two lists of suitable exercises follow, one more strenuous; the other, milder:

More Strenuous List—

To be done on mat on floor.

1. Lie on back. Alternate knee bending toward chest with double arm flinging overhead; that is, fling both arms up and over head as knee comes up. Repeat five to ten times, counting by one leg.

2. Lie on face, legs straight, arms at sides. Raise trunk, arms and head from mattress. Repeat three to six times.

3. Lie on side, top leg circling forward. Same backward, keeping knee straight. Repeat on opposite side five to ten times.

4. Lie on back, knees bent with feet resting on mat. Raise hips and rotate slowly from side to side six to ten times.

5. Sit cross legged, hands behind ears, not touching head or neck, elbows bent and back of shoulder line. Turn trunk slowly from side to side, pushing up and back on elbows. Keep head and chest up. Repeat six to ten times alternately.

Unlike other regulated series of exercises, the ones taken during pregnancy decrease instead of increasing in strength after the fourth or fifth month.

6. Sit cross legged. Press knees outward with palms of hands. Rock gently right and left. Six to ten times each side.

7. Lie on back, arms at sides, legs straight down. Bend feet up toward body, keeping heels down and knees straight, clutch toes over at same time. Ten to fifteen times.

8. Lie on back, arms at sides, knees straight. Raise arms sideways, upward, and part legs, inhaling breath. Lower arms while exhaling. Do this from five to ten times.

These mild exercises may be done in bed.

1. Lie on back, arms at sides. Raise arms slowly sideways and upward while breathing in; bring them back to starting position while breathing out. Three to five times. (Avoid holding breath.)

2. Lie on back, knee circling. Draw one knee up and in, carry it out and down, letting it straighten gently. Keep other leg straight, pressing down firmly with heel. Three to five times. Repeat with other knee.

3. Lie on back, knees bent, feet resting on mattress, lift hips up from mattress, at same time pinching buttock muscles together as hips are elevated. Lower hips. Repeat five to eight times.

4. Stand on hands and knees. Keeping elbows stiff, sag lower back as far as possible, and then arch it upward as high as possible. Do not sway backwards or forwards while doing this up and down movement. Three to five times.

5. Lie on back, arms out at shoulder level, chin down. Raise chest off mattress, keeping chin well down, and push down on back (not top) of head. Try to flatten back of neck against mattress while raising chest. Breathe normally. Five to ten times.

6. Lie on back. Bend one knee toward abdomen, straighten it upward, and let it return; at the same time bend other knee, and continue as in riding a bicycle. Six to ten times. Moderate tempo.

7. Lie on side. Leg raising three to five times. Repeat on opposite side.

8. Lie on back, knees bent, feet resting on mattress, inner border of feet parallel and a little separated. Clutch toes, and raise inner border of feet while keeping great toe and heel down. Draw fore part of feet together in this position, keeping toes clutched. Fifteen times, resting between each five.

9. Lie on back. Raise chest, and gently flatten abdomen while inhaling breath. Relax while exhaling. Five to ten times.

In general, there should be no tension or great effort exerted while doing these exercises. If desired and convenient, slow music on the radio or phonograph may be used. No excessive increase in pulse rate or shortness of breath should be allowed to occur. Rest afterwards is desirable.

There seems to be a prevalent idea that women who have poor musculature and are loosely hung together bear their children with greater ease than those who are firmly knit and have good muscle tone. However, barring abnormalities, it is logical that a woman with well developed musculature will have a far easier time, before, during and after childbirth because of her good muscular tone, if she has the ability to control relaxation and contraction of muscles. The ability consciously to relax and contract will greatly facilitate labor.

Exercises such as have been given here are of indubitable value in improving muscle tone and in stimulating bodily functions during pregnancy.

The following foot exercises will also prove valuable:

1. Sit with your feet parallel, 12 inches apart and resting on a stool or chair 18 inches high. Bend the toes of the right foot over toward the sole. Hold this, grip and pull the right foot over the left and up toward the knee. Return to starting position. Do this five times. Repeat five times with the left foot. Continue in series of fives until you have done it thirty times.

2. Lie on the bed or couch with your feet elevated 12 to 18 inches on pillows or a stool. Have great toes touching and the heels 3 inches apart. You may have to put an elastic around the great toes at first, until you can hold them together easily. Working the muscles of both feet together, bend the toes over toward the sole of the foot. Hold the grip and bend the feet back at ankle joint, keeping the great toes together. Return to the starting position. Do this five times, rest and continue in series of five for twenty times.

3. Walk slowly forward in stockings or flat grass sandals along a straight line, with the heels and great toes touching either side of the line. As the weight is transferred to the forward foot, "grip" the floor, raising your arches, but keeping the heels and toes on the floor. Walk ten

steps forward four times, or, in a longer space, forty steps forward.

These exercises should not be attempted when tired. They may be done to good advantage one at a time at intervals during the day. For example, one when arising, one after a mid-day rest and the other one before going to bed. Spreading them over the day in this manner tends to make you more conscious of the proper position to be maintained during weight bearing. Increased foot strength through repetition of exercise will not only give you the proper muscular equipment to bear the weight correctly, but will give you greater comfort as well.

Exercise for the Mother After Baby's Birth

While the mother is still in bed, and after the first few days of absolute quiet, the physician may wish the mother to do a few exercises. The following are submitted for use if so directed.

1. Lie on your back in bed. Raise your head from the pillow, and bend your neck forward until the chin touches your chest. The shoulders and upper back are raised slightly from the bed. Lower shoulders and head to starting position. Do this three times.

2. Lie on back, both knees bent, feet resting on bed with heels separated about 3 inches and great toes together. Place right hand on abdomen. Take a deep breath, raising the chest and flattening the abdomen, thus contracting the abdominal muscles. The left hand may press down slightly on the abdomen, assisting in the abdominal flattening, while the chest will lift the right hand. Let out breath and rest a moment. Do this five times.

3. Lie on back, arms relaxed at sides, knees bent. Place a bath towel under the feet; they are held with heels slightly apart, great toes touching each other. Contract all the toes until they grip the towel. Continue to hold this grip while you bend the feet up at the ankles, lifting the towel with the toes. Lower feet, and release grip on towel. Do this five times, rest, and repeat five more.

4. Lie on the right side, with right arm bent under head, left hand grasping edge of mattress; legs stretched down with the left resting on top of right. Raise top (left) leg up toward ceiling, 18 to 24 inches or as high as is comfortable. Keep it in line with the other leg, moving it neither forward nor backward. Lower leg to original position. Do this three times without straining; then turn over on the left side, and do the same thing with the right leg, three times.

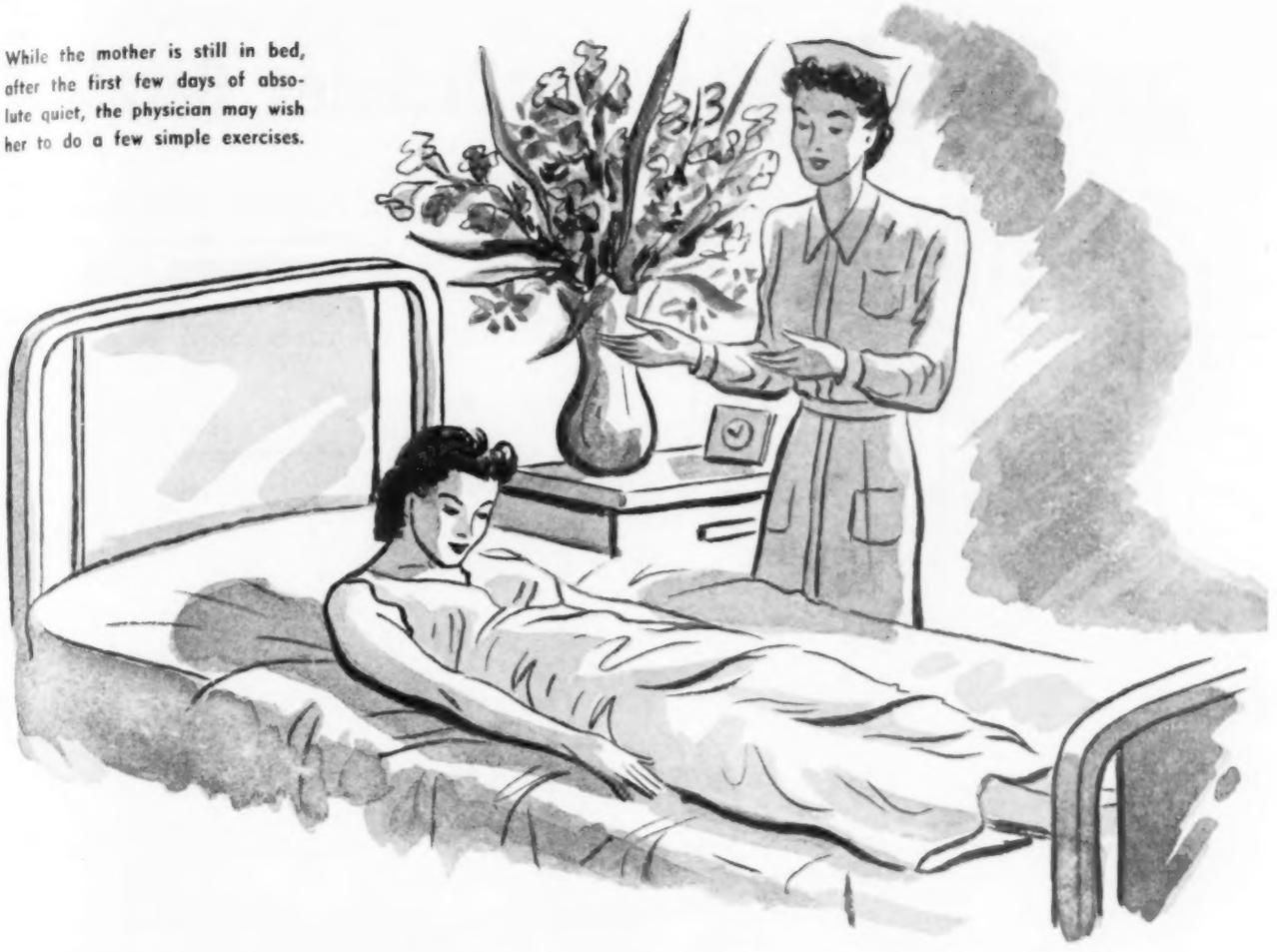
5. Lie face down with a small pillow under the abdomen and another under the head to prevent pressure on the breasts. Turn face to one side for easy breathing. Bend elbows and place hands with palms down on bed at level of ears. Raise head, shoulders and upper back as far as you can without taking the forearms or elbows from the bed. Breathe in deeply as you do so. Return to starting position, breathing out. Do this three times.

6. Lie face down again, and grasp the side of the mattress with each hand. Bend legs alternately at the knees, as if to kick your own buttocks. This may be repeated energetically ten times.

7. Lie on your back with knees bent, feet resting on bed, right hand on abdomen, left hand on bed. Contract the abdominal muscles, flattening abdomen, and at the same time tense or squeeze the buttock muscles, tipping pelvis up in front. You may help by pressing down on the bed with left hand, and with the right, press the abdomen gently toward the chest. Relax. Do this five times.

The first list of exercises should be carried on through the fifth week. The second is an additional one, to be done later in the bath tub, and it is suggested that they be done at a time when it is possible to rest afterward. The water should be comfortably warm. The head may be supported on the back of the tub. Enough water to float the rest of the body is necessary and will be an individual matter. When finished, follow by a good "rub down," and relax.

1. Lie in the tub with your head resting on the slanting end or on a head rest, sling or rubber pillow, which can be attached to the tub by a suction pad. Let your arms rest at your sides with body, thighs and legs as straight as the tub permits, feet parallel, flat against the far end. Lift your chest, roll the palms outward, squeeze the shoulder blades together, and contract the abdominal muscles, breathing in. Return to the starting position, breathing out. Do this five times.



While the mother is still in bed, after the first few days of absolute quiet, the physician may wish her to do a few simple exercises.

2. With your hands grasp the edges of the tub, allowing your elbows and forearms to touch the sides. Brace your feet against the end. Twist your hips, the left one up, the right one down. Return to the starting position, and repeat four times. Reverse the motions, right hip up and left hip down. Do this five times.

3. Grasp the edges of the tub with your hands. Keep your toes and heels against the end of the tub, and lift the inner edges of the feet, exaggerating the hollow of the longitudinal arch by rolling the knees and thighs outward, away from each other. Do this five times.

4. Grasp the edge of the tub with your right hand, keeping the left foot against the end. Bend your right knee in the direction of the left shoulder, helping it at the finish of the movement with the left hand, so that it comes as high as possible. Relax. Do this five times. Repeat it five times, using the left knee and your right hand.

5. Lie with your arms at your sides. Curve the upper trunk to the right, the right hand reaching down toward right foot. Return to the relaxed position. Do this five times, then repeat, curving the trunk to the left five times.

6. Sit in the tub with legs straight or crossed tailor fashion. Let your hands "cup" the breasts, with elbows close to your sides. Twist your trunk to the right and left alternately eight times, keeping your head straight forward.

7. Lie on your right side with the right arm bent under head, left hand grasping the right edge of the tub. If the tub is long enough, straighten the legs. Raise the left leg straight toward the ceiling, as high as it will comfortably go. Do this five times. Turn on your left side, and raise the right leg five times.

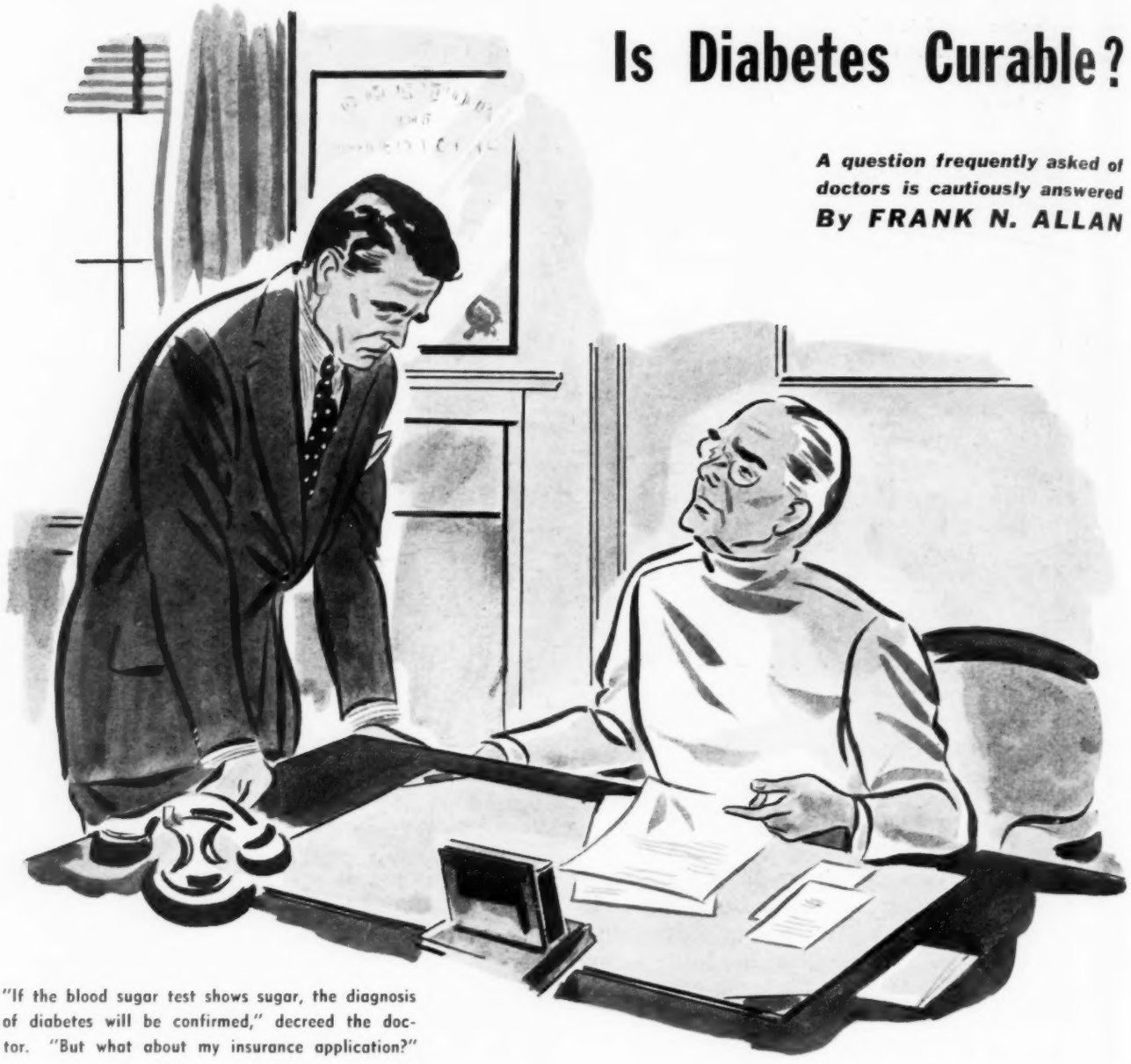
8. Lie on the abdomen with hands on the head rim of the tub. Raise your head and shoulders, taking a deep breath. Lower head and shoulders, letting your breath out. Do this five times.

9. Lie on your back with knees bent and your right hand resting on the abdomen, with the left hand grasping the edge of the tub. Contract the abdomen, assisting with the pressure of the hand. Do this five times.

Is Diabetes Curable?

A question frequently asked of doctors is cautiously answered

By FRANK N. ALLAN



"If the blood sugar test shows sugar, the diagnosis of diabetes will be confirmed," decreed the doctor. "But what about my insurance application?"

"YOU'RE as sound as a drum," said Dr. Wright as he completed the insurance examination and put away his stethoscope. "Your heart is normal, and your blood pressure is just right. I must test a specimen of urine, and then you'll be all through."

Mr. Read gave a sigh of relief as he put on his clothes. He expected to have no difficulty in passing the examination; but actually he had not been feeling as well as usual. In recent months he had become conscious of lack of his usual energy and ambition. He scrutinized himself in the mirror as he adjusted his tie. He saw a healthy looking, ruddy face; but he noted with a rueful sigh the double chin about which his wife had begun to taunt him several years before. He could not disguise the fact that he had allowed himself to become too fat. He pulled his belt in tightly, but the bulging abdomen could not be concealed. "I must try to get my weight down," he said laconically to himself.

Just then Dr. Wright returned and spoke to him. "I'll have to change my verdict. The urinalysis shows sugar."

He was aroused from his meditation with a start. "What does that mean?"

"It may mean diabetes," said Dr. Wright, "but it depends on the circumstances. A blood sugar test is needed to confirm the diagnosis. This should be done at once to settle the matter. If the blood sugar is high, it will prove that you have diabetes."

"What about the insurance?"

"If the blood sugar test is high, indicating that you have real diabetes, you will be rejected.

If the blood sugar test is reported normal, further investigation will be needed to determine your status. If a 'sugar tolerance test' and other tests indicate that you have sugar that is due to some other harmless condition, you may be accepted. Yet even if you are rejected by the insurance company because of diabetes, you can hope to live your full span of life and enjoy normal health. It all depends on the success with which you follow the instructions regarding treatment and the cooperation you give me."

"But I haven't had any symptoms of diabetes, Dr. Wright. I've always thought that a person with diabetes had a voracious appetite and craved sugar. I like to eat, and I've always had a hearty appetite, but it's not abnormal. I thought too that a diabetic wasted away and became very thin."

"That's true of severe and advanced diabetes," Dr. Wright replied. "There is also an intense thirst and frequent voiding of large quantities of urine both night and day. But in the majority of early cases, all these typical symptoms are lacking. People like yourself who are overweight are prone to develop mild diabetes, and it may be present for months or even years before it shows its harmful effects. In any case it is important for any one who has diabetes of any degree to receive treatment."

"What kind of treatment will I need?"

"That question can be answered when the report of the blood sugar test is ready. If the diagnosis of diabetes is established by finding sugar both in the urine and an increased amount of sugar in the blood, detailed instructions can be given in regard to the treatment suited to your personal needs. However, I can tell you now the general plan of action.

"The diet must be given attention first. Sugar and foods rich in sugar should be avoided, but one must also avoid excess of any kind of food. Since you are overweight it will be particularly important to restrict fat foods. At the same time, the diet must provide the materials needed for good nutrition."

"Is it just a matter of diet then?"

"In many cases the diet is all that is required, but of course this may demand careful adjustment to suit individual needs, and the menu prescribed must be followed exactly in respect both to kind and quantity of every food.

"If diet alone fails to check the excretion of sugar in the urine, insulin must be given in addition. Daily injection of insulin is life saving in case of severe diabetes. Even in certain mild cases its temporary use may be invaluable."

The diagnosis of diabetes was verified when Mr. Read consulted his physician the next day. He began dietary treatment and continued to report to the doctor for supervision at intervals.

A year later he sat in the doctor's office as they talked over the progress made. During the twelve months Mr. Read had lost the double chin, and the scales now showed that his weight had come down to normal.

"I feel like a different man," he declared. "I haven't had that dead listless feeling for months. I think it's amazing how I've changed since I had that insurance examination a year ago."

"You should indeed feel entirely well," said the doctor, "and I feel gratified to find that the urine is free from sugar and that the blood sugar tests are now consistently normal, too."

"If I have no signs of diabetes, why can't I say that I am cured?"

"You might say that you were cured," replied the cautious doctor, "but the word 'cure' gives a feeling of false security. Far too often we see the suffering of people who have thought they were cured, and then by their neglect they have allowed it to return later in life. Diabetes cannot be ignored even now, but from this time on you can deal with it successfully if you simply follow these four rules.

"First, avoid overeating. Do not let yourself again become overweight.

"Second, avoid indulgence in sugar and sweets.

"Third, have periodic tests of the urine to make sure that it remains free from sugar.

"Fourth, be sure to have medical care and give special attention to the diabetes if you become ill in any way. Illness may aggravate latent diabetes.

"Follow these rules, and you will escape trouble from diabetes in the future."

What does it mean to have sugar in the urine? Every day physicians who make thorough examinations find sugar in the urine of patients who have not shown any signs or symptoms to arouse suspicion of its presence. In some cases the sugar is due to a harmless condition which can be identified by further study; in other cases it is due to early diabetes. Blood sugar tests, and sometimes sugar tolerance tests, are essential for diagnosis. In far too many cases the condition is neglected, because it is human nature to follow the oft quoted example of the ostrich. The suffering, disability and deaths due to diabetes and its complications constitute a major health problem. Prevention is possible in large measure if each individual concerned receives the kind of attention given Mr. Read.

The story of the cystoscope, an aid to urology, is told
By J. BAYARD CLARK

FROM DARKNESS TO LIGHT

JEAN R., a 21 year old housewife with a fine young husband and 4 months old baby, was suddenly doubled up one morning in an agony of pain. An hour later the surgeon at the hospital said, "Appendicitis, probably, and that means an immediate operation." But there was just something about the case that suggested an x-ray first. When taken, it showed a little round shadow in the region of the appendix. The surgeon shook his head: "We'll need a urologist."

The next morning Jean was home again—no operation, no more pain, smiling and happy as usual.

How did it happen that way? That little round shadow in the x-ray was a stone behind the appendix in the "aqueduct" between the kidney and bladder. It had stuck on the way down. And when that happens, there's no pain much worse. When the urologist [a specialist in diseases of the genito-urinary tract] was verifying it, he also gave it help in coming out.

Yes, wonderful things happen because of this new branch of medical science called urology. The wonders started with the little instrument called the cystoscope. It shows what's going on in that part of your body. Scarcely anything can go wrong there nowadays that this cystoscope and the x-ray cannot promptly discover.

Many years ago the cystoscope was a crude instrument; but not until recently in its highly perfected form has it reached its greatest practical usefulness. You can look sideways with it, actually see things around the corner, as well as straight ahead. It has a host of descendants, all the way from the bronchoscope—which recovers pennies and safety pins which baby has gotten down the wrong way—to the periscope, that sticks up out of a submarine for reconnoitering.

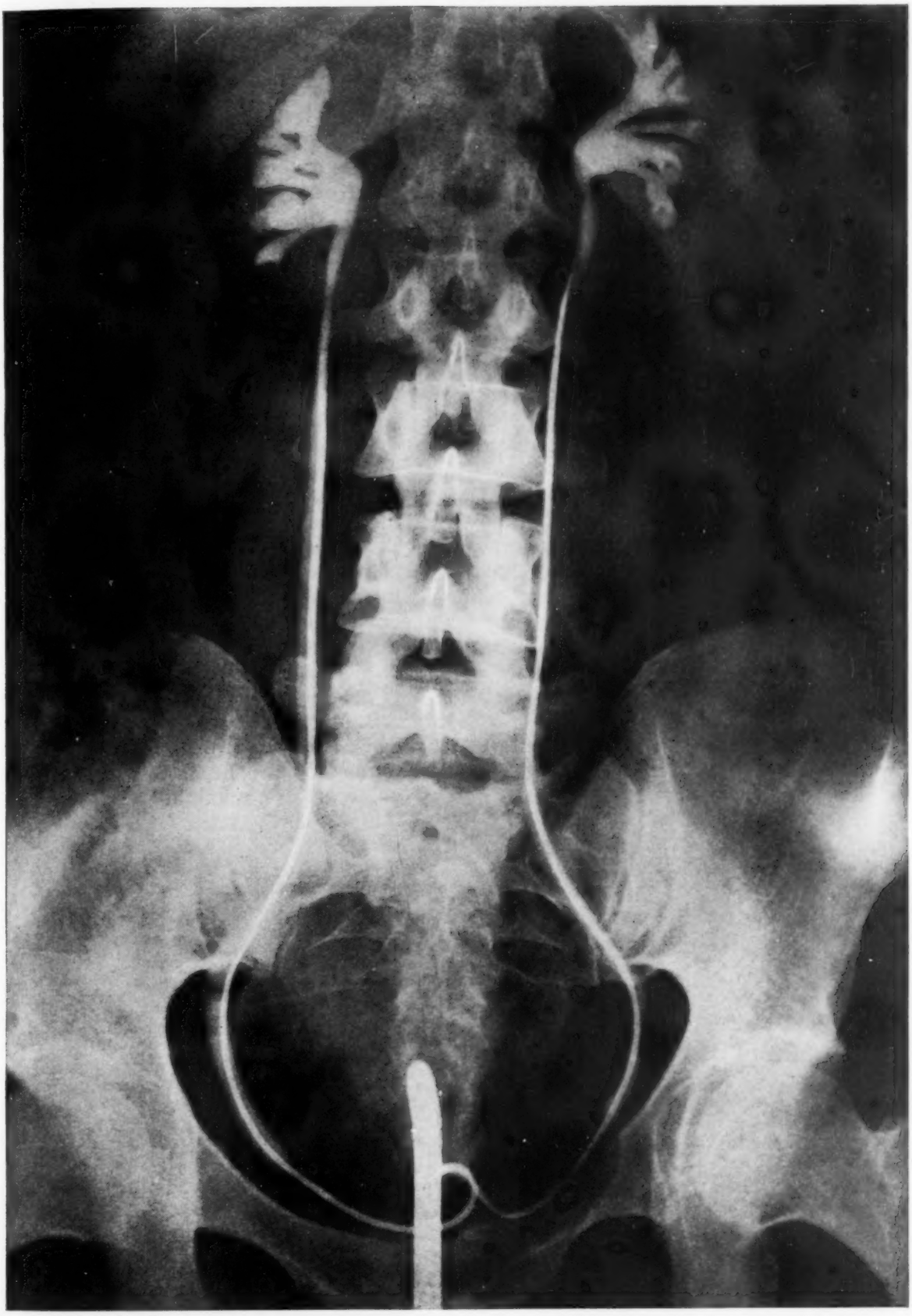
Many pain-racked persons used to die every year of diseases such as tuberculosis, stones and cancer of these parts of the body. The cystoscope is now the agent of mercy for these patients.

To understand the brilliant results obtained in this branch of medicine one must first visualize our abdominal geography. On each side of the spinal column and partly protected by the encircling lower ribs lies a kidney; it's business is to rid the blood of certain waste products which are washed out in watery form into the hollow basin, or pelvis, of that organ. Like a funnel this pelvis narrows down to a tiny tube about the size of a quill. It is called the ureter. From each kidney one of these ureters descends in the back part of the abdominal cavity on either side of the spine. As they get nearer the lower part of the abdomen, they draw closer to each other until at the bottom they enter the bladder about an inch apart. The bladder is a reservoir which is emptied when it gets uncomfortably full.

Without going into the intricate anatomy or physiology of the urinary organs one can understand that when anything happens to this perfectly balanced system we are made aware through pain or loss of health that something is wrong. To spot the exact nature of this difficulty and definitely locate it has been one of the modern miracles of scientific medicine.

This came about through the cystoscope which literally has turned darkness into light.

To be sure, we had a postmortem acquaintance with these internal maladies that used to defy us, but that was small comfort to those who



This x-ray picture shows the cystoscope in place with its tubes projecting from it up toward the kidneys. It also shows the basins of the kidneys clearly outlined and the ducts leading from them. This is made possible by injecting an opaque fluid into the blood stream.

suffered without relief or ultimately died from them. Common among these concealed diseases were tumors, tuberculosis, stone formations, malformations, obstructions, ulcers and infections. Physicians had to go largely by deduction; as for definite knowledge or accurate diagnosis, they had none. Except for their opiates, their comforting words and occasionally their lancet or catheter, medical men could be of little use when they were called on to attend any of these deeply seated ailments.

Then came the cystoscope. After years of experimentation, this tubelike contrivance which could be slipped into the bladder through the urethra was evolved. At the forward end of it is an electric light. At the other end is an eyepiece through which the observer looks into a system of miniature telescopic lenses and can study the interior of the illuminated bladder which is distended with a clear fluid. Every detail can be seen perfectly. To read the date on a ten cent piece, were it in the bladder, would be too easy. The size and number of bladder stones can be told; the character of tumors, ulcerations, protrusions of the enlarged prostate gland, the slightest change from the normal of the mucous membrane or the minute blood vessels—all can be seen and studied with astonishing precision.

With the cystoscope a doctor can observe the tiny openings of the ureters where they enter the bladder; he can study the character of their action as they emit their jets of urine; he can even pass little catheters (tubes) through the cystoscope and into these ureter openings and on up to the kidneys; with these the separate excretion of the kidneys can be collected for analysis and a determination made as to abnormal conditions.

At this point our ally, the x-ray enters. Into these tiny catheters can be injected a solution that casts a shadow outlining each kidney pelvis, enabling a physician to determine any deviations from the normal structures, telling him of stones, tumors, obstructions, malformations and the like. Thus, the dark continent of the upper urinary regions also has been explored.

Not only can the adult male and female urinary organs be successfully investigated but with a diminutive cystoscope even the infant can have the benefits of an exact diagnosis.

Only a few years ago a substance was found that could be injected into the circulating blood which when excreted by the kidneys would give an x-ray shadow portraying the entire urinary tract. This has found a valuable place in urologic diagnosis. And it is to be remembered that diagnosis is the all important thing. The next step, that of treatment, is comparatively easy. Correct diagnosis, indeed, frequently points the way to avoid the exploratory operation so often forced on the urologist in the past.

Many technical aids have been inspired by the cystoscope to localize, to visualize and treat genito-urinary ills without an operation. The latest device deals with prostate gland obstruction. This is the resectoscope that removes without abdominal operation the obstructing gland that occurs in so many elderly males.

Mary H., a bright and capable young woman, 24 years old, who supported herself and her mother in the small community where they lived, was suffering from great frequency of urination both day and night. This was accompanied by excruciating pain. For over a year she sought frantically for relief, steadily losing weight and strength. At about the end of her tether, some one sent her to a urologist. There the germs of tuberculosis were readily found. The cystoscope revealed an inflamed and ulcerated bladder. The right kidney was hopelessly infected, but the left was normal. X-ray and other tests checked these findings. When the right kidney was removed, her sufferings ceased immediately. She went on to complete recovery of good health.

F. W., a well preserved man of 73 years of age, active in a professional career, was referred to a urologist because of some difficulty in voiding after rising in the morning. A preliminary examination of the abdomen revealed what was undoubtedly an overdistended bladder. The top of the swelling reached almost to his navel. It had come on so gradually that he was unaware of it. Examination of the prostate gland in the usual manner to discover whether it was enlarged and obstructing the outflow of urine revealed no enlargement to the touch. He was examined to see whether the nerve control of his bladder was at fault, which was likewise normal. The x-ray showed no abnormality. After the bladder was slowly drained of an enormous amount of urine, a cystoscopic examination was made, and the difficulty was immediately evident. There was a bar of issue across the outlet to the bladder which acted exactly like a dam in a brook—it held the water back. With a resectoscope, used like an examining cystoscope, the dam was removed with an electrified cutting loop. This allowed the bladder to empty itself in the usual way.

Mrs. Sarah S., an energetic little old lady beloved by every one in the small community where she lived, was shocked to discover one morning that her urine was very red. This persisted for several days *(Continued on page 842)*

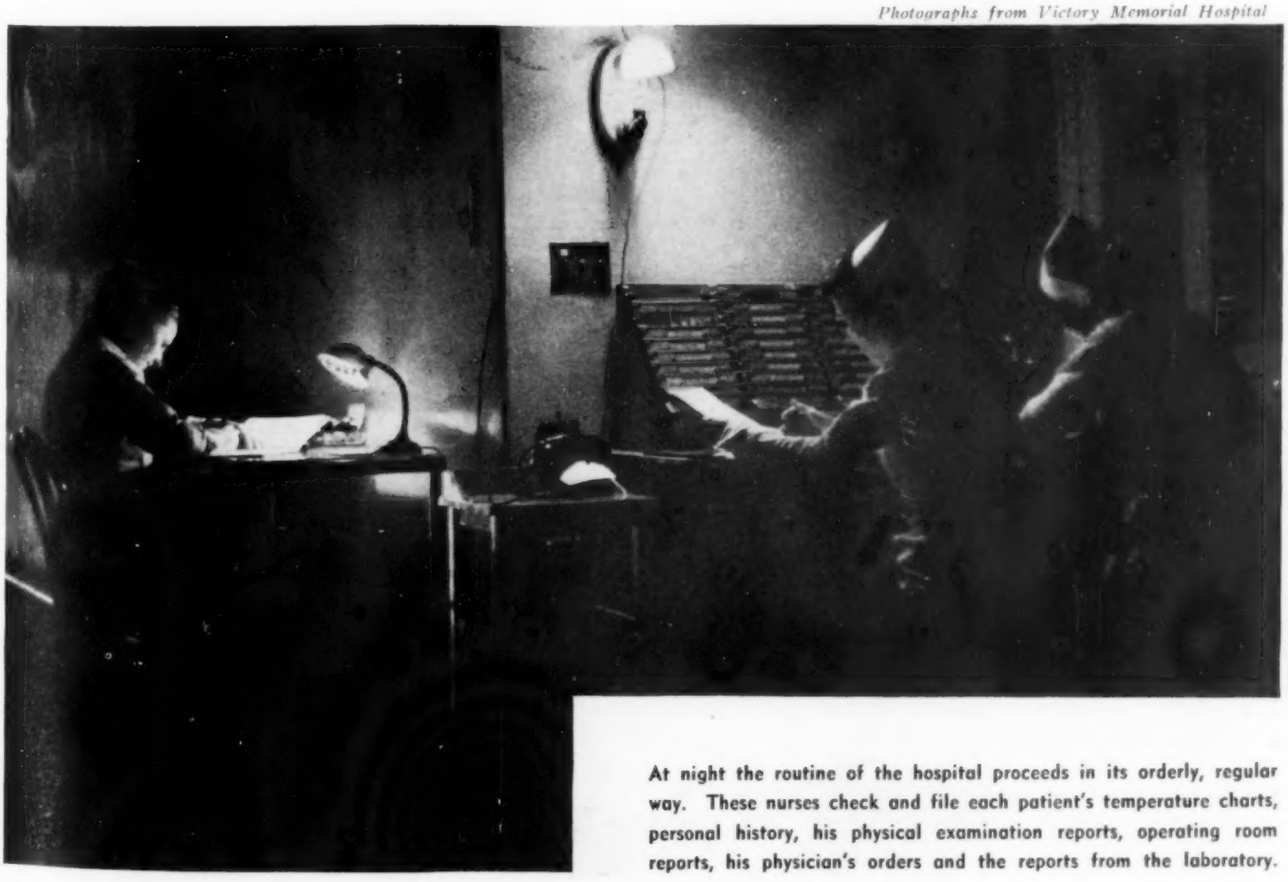
INTERN'S RETURN

Twenty-two years after leaving the scenes of his internship,* W. W. BAUER *goes back to see the changes time has wrought in the symmetry of that institution

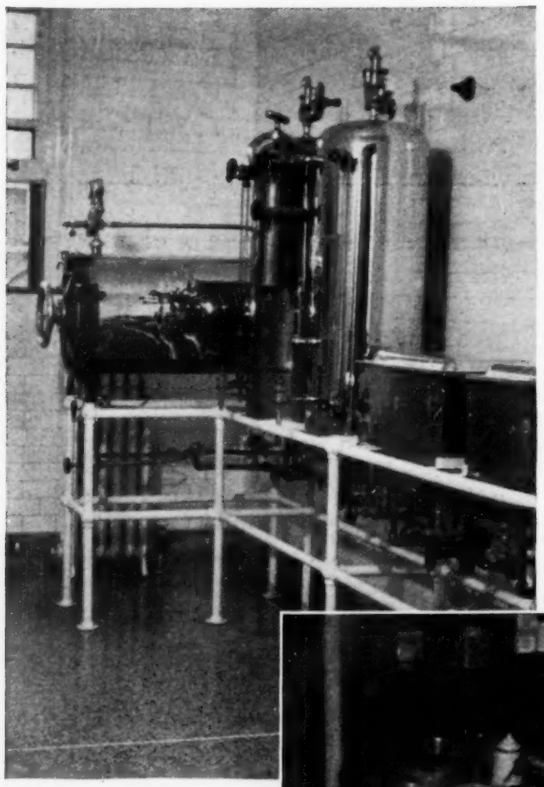
PHILOSOPHERS advise us never to return to scenes associated with happy memories. Every one is familiar with stories of men who went back to the scenes of their childhood and found the swimmin' hole ruined, the romantic wood lot destroyed, the old farmstead in decay or modernized beyond recognition, friends and acquaintances gone and forgotten and they themselves as strangers amid strange surroundings. Yet the urge to bring back happier days and to relive the past is universal. Contrary to the advice of the philosophers, I went back.

I went back for a dinner organized by an association of interns at the hospital where I served my internship. When I came out of medical school, just after the United States had entered the World War, the country was in a ferment of preparation for military service. Doctors were in demand. I had my medical degree but no internship and no license to practice. I started my internship in a hospital in one of the larger cities of the Middle West, a hospital set up on a hill. Its interns, who should still have been finishing out their year, had been called away to military service, and the three new graduates, including myself, were called on to begin our internship a month early. My duties there were interrupted after only four months.

Photographs from Victory Memorial Hospital



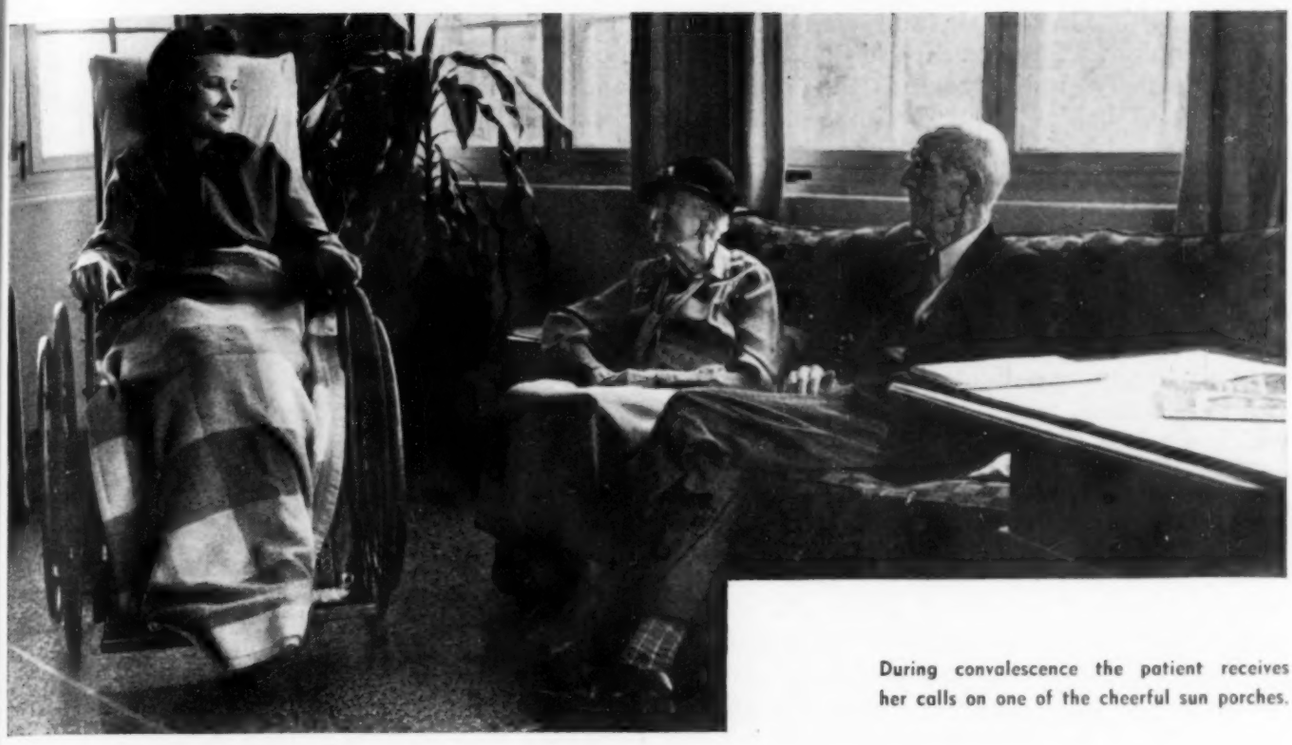
At night the routine of the hospital proceeds in its orderly, regular way. These nurses check and file each patient's temperature charts, personal history, his physical examination reports, operating room reports, his physician's orders and the reports from the laboratory.



In the hospital everything must be CLEAN. In these units, all linens are sterilized for forty-five minutes and the instruments, thirty minutes.

All food at the hospital is prepared under the direct supervision of a trained dietitian. Each tray carries a colored card with the patient's name. The color signifies one of the five general dietary classifications.

The modern institution can accommodate persons of all means. At right, a typical scene in a ward.



During convalescence the patient receives her calls on one of the cheerful sun porches.

In that brief time, in this hospital on the hill, I formed associations and developed affections that have not faded with the years, though it has seldom been my privilege or opportunity to go back. I came to know intimately many of the outstanding physicians in the city, who were members of the hospital staff or who brought their patients to the hospital. I learned to admire their technics, respect their judgment, esteem their integrity and marvel at their limitless patience and humanitarianism.

I grew to love and respect the clergyman who was, and is today, the hospital superintendent. I learned to revere the nursing sisters, who devoted their lives to the care of the sick without thought of themselves. I learned that the diminutive sister in charge of the operating room was ruler supreme in those regions and that nothing escaped the keen eye and the keener mind of the sister in charge of nursing education. I learned to love the hospital spirit, which so permeated the hospital routine that, young as I was, even my day off frequently found me loitering about the wards, the laboratories and corridors, interested in problems more fascinating than the prospect of a movie, a ball game or an opportunity to loaf.

This hospital has occupied the crest of this high hill for many years. In 1917 it had one new wing attached to an old stone building with high ceilings and old-fashioned architecture which dated back to the previous century. The hospital had been established there through the sacrificial efforts of a famous denominational pastor, whose name is attached to a number of hospitals in major cities. These hospitals, though denominational in origin and served by a denominational order of sisters, are wholly nonsectarian in their service to the community and in their professional staffing. They are in a true sense community hospitals, typical of numerous private and denominational hospitals of the same general type. They grow and prosper through their service to the community. They take a deep hold on the affections of the community through associations established at times of birth, sickness, recovery or death.

Such institutions cannot be created overnight. They are based not alone on money, buildings, equipment or even on staff and personnel. Buildings become outmoded; endowments lose their value; individuals come and go. But the spirit of the hospital lives on. I know this, because I went back to a new building, larger, finer and more modern in every respect than the one in which I had served. The "fine new wing," which was the admiration of the community in its day, is now overshadowed by newer and finer wings. The only part of the original hospital plant which stands intact is its chapel. Perhaps this fact is in itself symbolic.

Throughout the years this hospital has stood for the best in medical and hospital treatment, though it has not, of course, been the only hospital of high grade in its city. Today, its operating rooms embody the latest developments in lighting, sterilizing and service features. Its nursery provides for each baby a separate

cubicle, with filtered air and complete individual equipment for his care so that epidemics are extremely unlikely and the accidental exchange of babies is utterly impossible. The same forward-looking methods are in evidence in the maternity department. Its kitchens, laboratory and other service units radiate efficiency. Its laboratory is a recognized training center for technologists. The training school for nurses is of the highest character. One of the memories of my service is the excellence of the meals served not only to paying patients, but to ward patients and to personnel as well. The delicious dinner which marked the occasion at my return was evidence that there has been no change throughout the years in this regard at least.

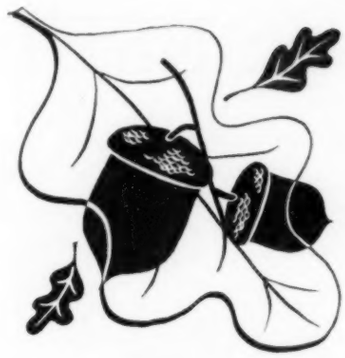
The response of the modern hospital to community needs is manifest in the wide range of accommodations available; there are deluxe suites for patients who can afford them and perfectly adequate, economical accommodations for the sick of more modest means. Throughout the history of this hospital many of its patients have been cared for free of charge, and they have had the same expert attention as if their bills were being paid every week. Today there is a flat rate plan for obstetrics providing ward care at $50, a two bed room at $60 or a private room at $75. These flat rates cover all the service furnished by the hospital, including room, meals, nursing care, delivery room, dressings, drugs and anesthesia. Only the doctor's bill is not included. Plans are under way for providing prepayment arrangements under a so-called hospital insurance plan, for which the medical profession in the state has procured special enabling legislation.

This hospital institution, whose spirit and character will be found repeated in thousands of similar institutions growing up under similar circumstances in all parts of the country, is as modern as today. Yet behind its streamlined physical plant there remains the same fundamental motivation of service to humanity which taught me to love and venerate it during my brief stay; it was this memory, indeed, which drew me back. In 1917, the hospital was already rich in tradition and memory. Throughout its existence, this hospital has had but four chiefs of staff. Among those guests with whom I dined were many who had been staff physicians during my internship. They did not seem to have changed much. They seemed older, heavier, wiser, a little sadder perhaps, but they were still the same good physicians, living by the same ideals as in the days when I caught their spirit from association with them in those corridors.

We hear much today about the need for new hospitals to rise like mushrooms out of millions appropriated from the federal treasury with some assistance from the states. Yet in this hospital to which I returned there are empty beds waiting to be used. If these beds were filled, the hospital could operate at greater efficiency and lower unit cost and could, therefore, increase its service to the community, including those who cannot pay as well as those who can. If competing hospitals are built out of government funds, established institutions like this one will suffer still further complications of empty beds, resources only partially utilized and resulting financial problems due to mounting unit costs. Such hospitals as this, rooted deep in the community life, should be helped (when they need help) before new hospitals are built. I do not know whether this particular hospital is in need of help, but certainly it should not be subjected to disadvantages which will curtail its usefulness.

Those who go about much in hospitals soon realize that these institutions have personalities. I have seen hospitals whose meticulous efficiency almost surpasses perfection. Everything is reduced to a routine. But you cannot reduce certain indefinable factors in medical care to a routine. There are times when only the warm flow of human affection can make the patient feel that the hospital is his friend and that it is the best place for him to be. There are hospitals which breathe confusion and hurry, and there are some in which laxity and inefficiency appear to prevail. The best hospital is that which is efficiently managed but whose personnel is imbued with the spirit of human friendliness and affection, which sends the recovered patient or the bereaved relative away with a warm glow of appreciation; he also knows that even in failure everything has been done for the sick person and his anxious family that could possibly have been done. Eloquent evidence of this spirit is found in such hospitals as the one to which I returned, where even in its morgue there has been introduced a note of solemn dignity which verges on the beautiful. Would such a spirit prevail in a political hospital superimposed on a community, without roots or tradition?

A hospital cannot be built of dollars, steel, stone, efficiency and equipment alone. A genuine hospital in the broadest sense of the term must grow out of the needs, the gifts, the collaboration and the sacrifices of the community. It must be managed so that it will bind to itself with delicate but powerful bonds those who serve and those who are served within its walls.

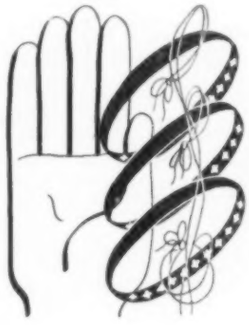


FORECAST for OCTOBER

MANY PERSONS HAVE ABSOLUTELY NO IDEA what "fresh air" really is. They believe that opening a window lets in fresh air and lets out bad air. This is often wrong, for the air in one's house may be "fresher" than it is outside. The fact that air may contain certain odors does not necessarily mean it is harmful, for it has been scientifically proved that odors in the air hurt no one. Actually, fresh air is the balance of the various components of the atmosphere to produce comfort. And what these "various components" are W. A. Sommerfield, M.D., tells HYGEIA readers in his article "What Is Weather?"

MARRIAGE IS A SERIOUS STEP! Have you ever wondered whether there were some persons who should never have taken that step? Paul Popenoe, Ph.D., sets out to answer that question in another of his excellent articles. He classifies such individuals into three categories: first, those who should not marry because of their own physical condition; second, those who should not marry because of their own mental condition, and third, those who may marry but who should not have children.

In an extremely fascinating article, Dr. Popenoe discusses a phase of the marriage problem which is seldom brought into print. He is Director of the Institute of Family Relations at Los Angeles.



TO THE LEFT, AS POLITICIANS TURN, we are offered state medicine. Doctors would be organized under the control of state bureaus which might well dictate how and when they could treat their patients and what their remuneration would be. But the medical profession is moving forward to meet the demands of our changing social order by developing methods of practice which would extend an equal quality of medical care to all classes, regardless of economic status.

You ask, What is all this about state medicine? Where do the doctors themselves stand? Here is your answer. "Dollar-a-Month Doctor" explains clearly and in detail the replies the medical profession would make to you, their patients. Inform yourself on this problem of vital significance by reading Lowell Lawrance's article next month.

OTHER FEATURES FOR OCTOBER will be "The Cry for Blood" by Noah D. Fabricant, M.D., and Leo Zimmerman, M.D.; "Wonder Stories of the Human Machine" a new series by George A. Skinner, M.D.; "Rules for Rearing a Runt" by Marjorie Holmes Mighell; "Hernia" by Geza de Takats, M.D., and "Cancer: Its Symptoms" by Emil Novak, M.D.

FAMILY RELATIONSHIPS

***The psychology of personal feelings between members of your family and their effects on your later life is shown by* HELEN COYLE**

EDUCATORS have long known that the patterns of emotional reaction laid down in early years are apt to be the influential ones throughout life. That is why such emphasis is laid on children's work in churches and on kindergarten and nursery school work.

The first family relationship begins in the mother's womb. This is the ideal environment. This is the one place we encounter in life where all our wants are completely satisfied. It is the heaven or Nirvana which the frail human bark forever seeks to recapture. By this I mean that the great guiding principle of a man's life, that which goads him on, is an inner desire for peace, which comes from being completely satisfied, not only physically but spiritually or emotionally. So we have our little being here in the mother's womb completely satisfied. It is an entirely passive relationship. Food is supplied, wastes are eliminated, he is kept warm and completely comfortable without any effort on his part. Suddenly he is thrust into a cold world where immediately he has to do things for himself and where he meets one frustration after another. In the first moment of life, he is filled with a terrific need for air, and as he cries he finds this need satisfied. Right here a pattern is begun by which he learns that crying often brings him what he wants. Now he must work for his food; that is, where Mother supplied it before, now he must make an effort to get it for himself. Here a lazy disposition may manifest itself. It is sometimes a serious problem to get some youngsters to nurse. Here at the nursing breast the first *active* family relationship begins. It is well known among pediatricians [child specialists] and psychiatrists that breast-fed youngsters have a head start on bottle-fed babies, as far as a healthy adjustment toward life goes. For with his first relationships, he has been satisfied and happy, and a pattern of expecting to get what he wants, instead of expecting to be frustrated, is set up.

I once saw a college girl who imagined that all her male instructors were falling in love with her. During the early years of this girl's life, her mother had been nervous and depressed. She had wanted a boy, not a girl, and she could not nurse her child. It was a serious problem to get food to agree with the baby, and during the first six months of her life she nearly starved to death. She had been cared for by a governess, and at 3 years, when a brother arrived on the scene, she was practically a forgotten member of the household, except as she brought herself to their attention by being troublesome.

By the time college came, this poor girl was still struggling to satisfy her thwarted emotional desires. The final solution for her was to live in a world of fantasy rather than reality. Please note, I do not say that because this child was bottle fed and not breast fed she developed a serious mental illness; but I do say, an early experience of satisfaction instead of frustration sets a pattern which makes things go more smoothly later on both for child and parent.

The child gradually learns to distinguish between himself and his environment. He discovers his toes and the other parts of his body, the "I" and the "Not I," and next he discovers various objects in his environment, first of course his mother—the person who satisfies all his needs, who brings him peace and comfort. But again frustration awaits, for he soon learns that he must share this person with others, with Father and with brothers and sisters. And how does he react to this? With a smile and "You first, my dear Papa"? Oh no! He is enraged. He wants Mother all to himself. He does not want to share her, and he uses all the ingenuity in his little being to get what he wants.

What happens? In the first place, when he sees that perhaps Father holds first place in mother's affection, and not himself, he is jealous. But why, you say? There is no reason. There is love enough for each, and it isn't a question of loving one more than the other. To understand the answer to this we must understand better the little child's position; we must put ourselves in his place. Do you see how extremely dependent on a mother the child is for everything? Biologically, he cannot care for himself. Any threat to the

The other children must not resent the little newcomer to the family. This attitude can be cultivated easily.

Century Photo

removal of his love security (his mother, here) is a threat to his very life. Thus, is it any wonder that he regards seriously any one who interferes, or seems to interfere, with this relationship? We must understand not only how much this child needs to be sure of his mother's love, but also what his point of view is and which things small in an adult's eyes assume tragic importance in the child's eyes. For instance, displays of affection on the part of parents toward each other or toward the other children may make him anxious and fearful of losing his mother.

One of the greatest threats to a child during this period is a new baby. He has been all important in the household, and a newcomer usurps his place. Such an event is inevitably a major tragedy, for which he must be carefully prepared. If he is old enough, he should have a part in the preparation for the new baby, and he should share afterward in the responsibility of the child. In this manner his independence and his help to his mother will compensate for the loss of his dependence. The amount of time beforehand that he is taken into his mother's confidence must depend on his age. A child cannot reckon time as can an adult. It is better not to have too long a period of waiting.

The child finds that if he shows his jealousy toward his father or his brothers or sisters it

does not bring about more love from his mother, but it results in her disapproval. So he quickly learns to repress such violent unsocial emotions for fear he will lose his mother's love, just as he learned to obey her instructions to win her love and approval at an earlier age.

Parents often resent the suggestion that a child does not always love his father or his brothers or his sisters. They say, "My child never showed such a feeling toward his father," or "My child loves his baby sister very dearly." This is true, but a child's love is different from adult love, because it is based on the child's great physical dependence. During this period, you may even catch your older child pinching the new baby when he thinks your head is turned, or he may smash the little brother's favorite toy. He may lose Daddy's favorite pipe, or he may cut a hole in his best overcoat. Such are the slight but significant and somewhat normal manifestations.

Psychiatrists have various ways of encouraging a child to express these hidden emotions. One such method is called the "play" technic. They give the child a family of dolls corresponding to his own family group and ask him to tell a story about them. Often such a story consists in killing off every one in the story but the mother and himself. Thus, it is highly important to give this little pagan emotional security during this period. This we attempt to do in having him know that parental love is ever present, whether he obeys or not, but that we take great pride in his becoming an independent, achieving person. Mothers who are thwarted in their own emotional lives sometimes make fatal mistakes at this time by getting all their own emotional satisfaction from the responses of the child, and he may become so dependent on her that he will never marry.

Fathers seem unimportant in the scheme of things I have just outlined. But this is not true. With the little boy, he is of necessity secondarily important. Fathers are often jealous, which children are quick to recognize and to react to accordingly. Or the father may return the boy's jealousy with overseverity or resentment, when what he needs is understanding and a lesson that father is not the dreadful creature he imagines but one who also offers him security and love. In the little girl's case, Mother soon takes second place, and Father becomes the more important parent in the natural order of things. In playing dolls little girls sometimes have Mother die and marry Father themselves.

If, then, in this preschool period, the child attains a feeling of security in the love of both parents, and if there is a gradual growth from dependence to independence, there is every chance for this child to become a healthy adult emotionally. For these patterns carry over to all relationships. He reacts to all persons in authority much as he reacts to his parents. He reacts to his contemporaries as he learned in these formative years to accept his brothers and sisters. So we have our child at 6 ready to begin life in the outside world either equipped to meet it directly and joyously with a feeling of comfort and well-being that all is well or with a distorted set of emotions. He may feel resigned to failure in relationships with people, or he may feel that the whole world is hostile and want to fight every one in it. We find him from school age to puberty normally concentrating on the outside world and growing physically and intellectually. During adolescence there is a reawakening of the old interest in love relationships. But there is a difference now. This is notably the most idealistic period of love. Often the boy's first love is an older woman, for his ideal of womanhood is his mother. Eventually his love interest matures as he becomes economically independent. He now wants to build a home and have children of his own to protect and care for. He finds for himself a partner who has reached a similar stage of development, and the cycle thus begins anew.

Many adults marry who are not emotionally grown up. This accounts for the maladjusted and unhappy marriages. Some adults never marry because of emotional thwarting at one of the emotional stages already mentioned. For example, in hospitals for the mentally ill, some patients sit all day curled up in a chair like an embryo. Nothing distracts them except the dinner bell. They rush to the table, gobble down their food and rush back. Many individuals live like this for years. The theory is that they have gone back to the only stage at which they achieved satisfaction.

There are other persons who love only themselves and their bodies. Such are those who talk continuously about their own ailments. They can never give and take in a normal relationship. They love themselves too much. Then there is the little girl who becomes so attached to her father that she cannot grow up and leave him, and so she remains a spinster. Her counterpart is the man who sacrifices for his mother instead of making a home for himself.

An emotionally healthy adult is one who faces life in a direct aggressive way. He is able to give and take in his relationships, and he seeks the responsibility of a home and children to love and protect.

When Prevention Fails

By EDNA LEWIS

WHILE ONE is learning the ABC's of prevention of accidents, there is an accompanying problem which needs more attention than is usually accorded it: What should one do when prevention fails? The answer is, "Call the doctor." Unfortunately, however, the doctor is sometimes too late. What can you do in the meantime? Stand by and wring your hands? There is indeed ample cause for panic if you have to stand beside an injured person and watch him die when you know something might be done but don't know what to do. It is just this urge to do *something* that so often complicates the case a hundred-fold by wrong handling. That is the reason so many first aid rules start with "Don't." It is better to do nothing than to do the wrong thing.

Transporting an Injured Person —The Fireman's Carry

There are relatively few essentials of first aid, so that there is no reason why it should not be made simple enough that adequate care may be insured every injured person. It is high time that all the useless lumber of bandages, antidotes and tourniquets be cleared away so that the few first principles of saving a life may be thoroughly known. First aid that requires a notebook for reference is not first aid. What is done—or not done—must be done at once. It is much as the firemen say about a fire: The first five minutes count for more than the next five hours.

First aid is a matter of common sense more than a matter of skill. In an injury there is a reversal of or deviation from normal conditions. The general rule is, then, reverse the abnormal condition found:

If there is bleeding, stop the bleeding.
If the face is pale, lower the head.
If the patient is cold, apply warmth.
If an arm or a leg has lost its rigidity, supply this rigidity.
If poison has been swallowed, dilute it and (usually) wash out the stomach.
If breathing has stopped, start artificial respiration.
If the patient is unconscious and not able to swallow, don't give anything by mouth.

There are two notable exceptions to these general rules, which must be memorized but which are fortified by common sense:

Never lower the head when there is a head injury, for you thereby increase the danger of cerebral hemorrhage.
Do not wash out the stomach when a poison has been taken which has burned the lips and mouth, as you would thus increase the danger of perforation of the stomach.

Fortified by these general rules, what then is the right procedure? Again, the rules are few:

Take charge of the situation.
Do not move the patient until you are sure that moving will not hurt him.
Check carefully the three points which immediately jeopardize his life: 1. Is there hemorrhage? 2. Is he breathing? 3. Is his heart beating and pulse of fair quality? If these points are satisfactory, you have no cause for alarm; often the best treatment is waiting for the doctor's arrival. Keep the patient warm.
Care for other injuries as the case indicates.

Taking Charge.—Delegate some responsible person to call the doctor. Urge the need for making sure the doctor understands just where to come. Have some one keep the crowd back while you assume the responsibility for the patient.

Moving the Patient.—Because the first thing that is always done by persons untrained in

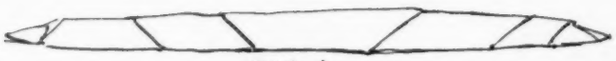


FIG. 1

FIG. 2

FIG. 3

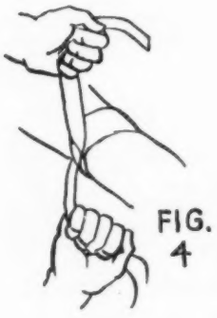


FIG. 4

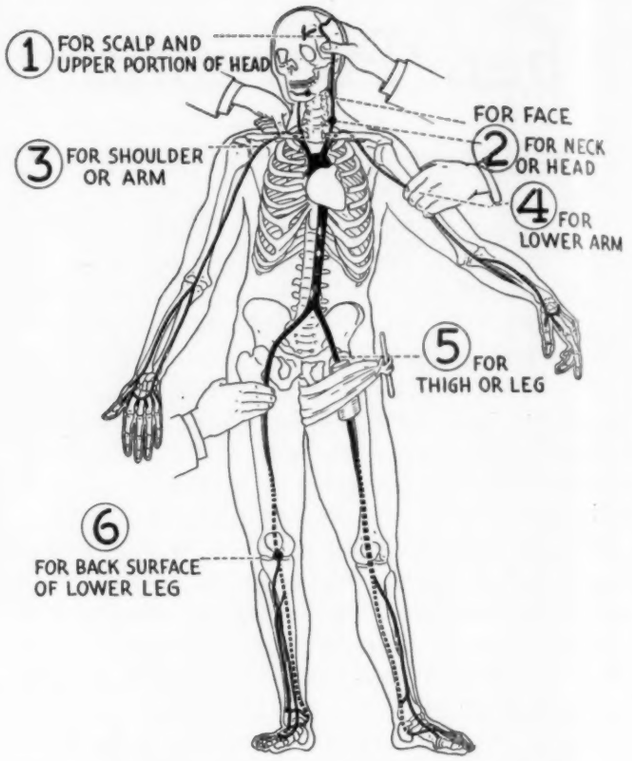
A Simple Tourniquet

If a piece of cloth is used, roll or fold it as shown in figure 1.

Place the center of the tourniquet on the outside of the arm from which there is bleeding and directly opposite the proper arterial pressure point (see at right).

Swing the ends of the tourniquet around the arm, and cross them directly over the pressure point; then twist them three or four times, bringing the free ends around to the outside (figure 3).

Tie a half knot, and pull the ends tight, as figure 4. To prevent gangrene, release the pressure momentarily at intervals of 15 minutes.



Where to Apply Pressure to Stop Bleeding

Pulsation must be felt in every case; otherwise an artery has not been located. Pressure should be sufficient to stop this pulsation. Tourniquets are useful in two places: at points 4 and 5. These two places should take care of bleeding anywhere below them.

proper first aid measures is to pick the person up and carry him somewhere, the next rule should be: Never move an injured person until you are sure that moving will not further injure him. There are but few exceptions to this rule: when the house or car is afire; when the person is in gas or in contact with a live wire; when the person is on a railroad track with a train coming, or in some equally imperative situation. If the accident is in the middle of the street, have some one direct traffic so that the patient will not have to be moved. This rule, strictly adhered to, will prevent many cases of compound fracture, carrying as it does, the menace of years of suffering or invalidism as compared to a few months' incapacity because, in the moving, the broken bone pushes through the skin, carrying the infection into the bone marrow. Or again, the patient may have a broken back; rightly handled, there may be no complications; if the patient is dragged out or, as so often happens, set upright, paralysis may result.

Looking the Patient Over.—Much of the panic that occurs at the time of the accident might be avoided if every one knew that there was no danger of imminent death if there is no hemorrhage and the heart and respiration are satisfactory. These three points take precedence over all others:

1. Hemorrhage: Eventually, a sterile dressing will be as standard an item of equipment as the spare tire, the cook stove or the teacher's desk. If there is nothing sterile at hand, take the cleanest thing available (the inside of an ironed, folded handkerchief is usually as good a substitute as you will have at hand) and place directly over the wound; relieve tension on the skin at the site of the wound, and press tightly enough with your fingers to control the bleeding. Gradually reduce pressure, and bandage only as tightly as is necessary to keep from bleeding. On no account remove the original dressing, as the hemorrhage will probably start over again.

This relatively simple method of treating hemorrhage has several advantages over the earlier methods advised: No time is lost. There is not the danger of shutting off circulation for too long a period. Covering the wound reduces "shock" if the patient is con-

scious. It is the method that holds for hemorrhage from any part of the body surface, whether from artery or vein. The disadvantage of the method is the possibility of infection if nothing sterile is at hand; hence, the need for sterile dressings as a part of our everyday equipment.

2. Respiration: If the patient is not breathing, start artificial respiration at once. Artificial respiration is a simple enough skill so that you can become quite proficient with no more than a half hour's practice. Practice on several persons, and have them practice on you; you are a better operator if you know the "feel" of it by reason of having been the patient.

3. Pulse quality: Practice is necessary in order to judge quality of a pulse. If inexperienced, take your own pulse and that of your friends until you recognize the variability in rate and quality of so-called normal pulses.

When the pulse is bad, the first aid worker can do less than with other injuries. Responsibility beyond these simple suggestions cannot rest on the first aid worker; this is distinctly the physician's province. Warmth is always a first consideration. Coats and blankets may be used; be careful if using hot water bags or their substitutes that you do not burn the patient. If the patient is conscious, give sips of warm strong tea or coffee or one-half teaspoonful of aromatic spirits of ammonia in one-half glassful of water. Rubbing the patient toward the heart on the inside of the arms and legs is helpful if you are sure there are no broken bones or blood clots. When in doubt, do not use rubbing.

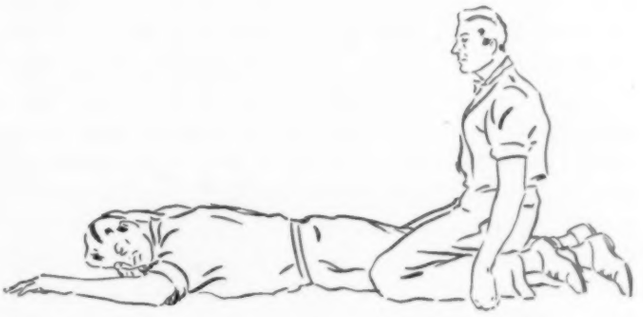
Attending to Other Injuries.—Numerous other precautions are essential for the intelligent administration of first aid:

Broken bones: When there is a broken bone, the chief concern is to avoid movement of the broken fragments. This may be accomplished either by not moving the patient or by giving the rigidity usually furnished by bones by means of support from the outside: splints, so called. Any stiff substance can be pressed into use—a shingle, board or folded cardboard or papers. Two splints of the approximate width of the arm or leg should be used; the splints should be padded with cotton, grass or other soft material and should extend beyond the joints at either end of the bone involved. When the splints are applied, the limb should be supported above and below the break, keeping a slight pull away from the body. The splints, padded with clothing, etc., should be tied in place with bandage or *(Continued on page 856)*

Artificial Respiration

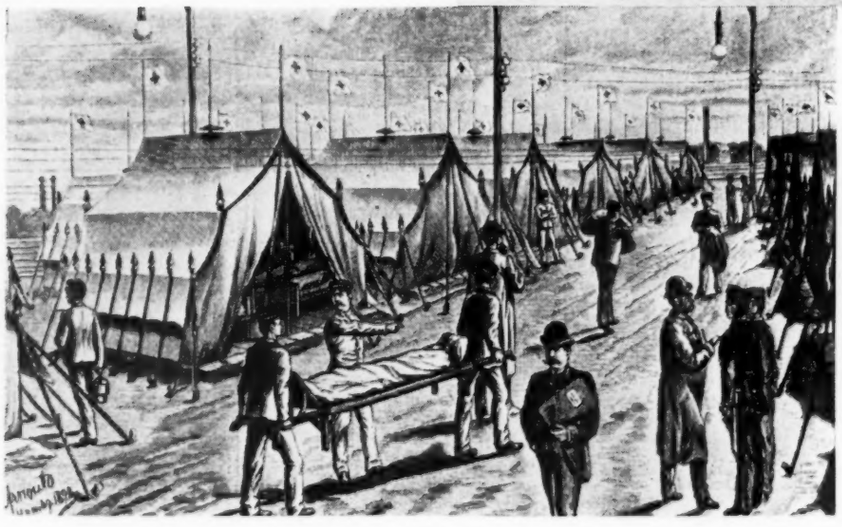
Lay the patient on his stomach with one arm extended, the other bent at the elbow so that his face turned outward, rests on his hand or forearm. Kneel, straddling the patient's thighs. Place the palms of your hands on the small of his back, with little fingers touching lowest ribs.

With arms extended, swing forward gradually, bringing weight of your body to bear on patient. This compresses the lungs. Take about 2 seconds for this operation.



Immediately swing back to remove the pressure. This allows the lungs to expand. After 2 seconds, swing forward again, and repeat the entire procedure 12 to 15 times a minute. If breathing again stops renew artificial respiration; continue for several hours, if necessary.

CLAUDE LILLINGSTON
concludes his series of seven articles with this account of the epidemic of cholera in Hamburg in 1892



Pure well water was furnished the stricken people of Hamburg during their epidemic of cholera. Emergency tent hospitals were set up to take care of the 17,000 persons attacked. Across, at right, is a cholera preventive woman who thus adorned herself with all the superstitious foibles to escape the disease.

Mysterious Epidemics in History: VII

WE TALK glibly enough of the Hamburg epidemic of cholera in 1892, as though it were an isolated event, but it was in reality only one link in a long chain extending from somewhere in upper India or beyond to New York and many other ports in both the New World and the Old. The Hamburg link has become history because it was here for the first time and on a vast scale that cholera was convicted by irrefutable, more or less experimental, evidence of being a water-borne disease due to a specific germ. It is true that the Vibrio, as the specific germ of cholera is known, had been discovered several years earlier by Robert Koch, who isolated it during the Egyptian epidemic of cholera in 1883. But at that date Koch's name was not surrounded by as bright a halo as it has since most deservedly acquired. And throughout the eighties many public health officials were still inclined to cling to other theories about the cause of cholera and to regard Koch as a crank with a bacteriologic bee in his bonnet.

Many months before cholera flared up in Hamburg, there were ominous mutterings in distant parts of the world. In 1891, news traveled from India, Kashmir, Persia and central Asia that cholera was making its way in the direction of Europe. Previous invasions from the same direction were of too recent date to let the public health authorities, particularly port health authorities, lull themselves into a false sense of security. Even in some of the ports of the New World the health authorities read the signs of the times with uneasy forebodings. In New York, Dr. Hermann M. Biggs, who combined an almost uncanny intuition with a strictly scientific judgment, felt alarmed as he studied the reports of cholera in Persia and elsewhere. A less mentally alert and imaginative mind would have dismissed these reports as matters of little inter-

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national importance, for had not cholera always been more or less endemic [locally characteristic] in certain out-of-the-way parts of the world? And why should it just now be particularly dangerous to the civilized world with all its wonderful sanitary science? And so, why worry?

Dr. Biggs thought otherwise. And instead of sitting passively in his New York office and just writing memorandums, which if the storm really did break might prove what a wonderful prophet he had been, he packed his bags and sailed for Europe in May 1892. As the accredited representative of the New York Quarantine Station, he carried letters from the secretary of state to all whom it might concern. With his first-class knowledge of bacteriology and pathology, he meant to find out how the port medical authorities in the Old World were equipped to deal with those emigrants who might hail from cholera-infected countries. His round of visits included the port of Hamburg, where he got into touch with the medical officers of the Hamburg-American Line and of the port of quarantine service. In his biography of Dr. Biggs, Prof. C.-E. A. Winslow has published a letter, which in the light of subsequent events must be considered as one of the most tragic documents ever written. This letter was addressed to Dr. Biggs by a medical officer of the Hamburg-American Line, a certain Dr. Baum. He wrote to inform Dr. Biggs of the measures which his service had taken to insure the effective examination and control of emigrants. Part of his letter ran:

> Our authorities have now instituted a medical examination of all emigrants on their arrival at Hamburg. We have further compelled the emigrant boarding houses to employ an approved physician who has the thorough control of the house, *daily* examines the emigrants and thus keeps the same under his inspection until the time of embarcation. We have further built barracks at the expense of M120,000 in order to lodge the Russian emigrants.
>
> On the part of the German Empire rigorous examinations of all passengers have to take place on their crossing the German Russian frontier, from where the emigrants are conveyed under the supervision of trusted officials in separate cars to the port of embarcation. On arrival at our port the Russian passengers are directly transported to the new emigrant barracks. Here the medical examination instituted by the Hamburg government takes place. The passengers found sound are then handed over to us by the authorities and are lodged for our account in the barracks. Each passenger has shortly after entering the barracks to take a bath under the care of trained attendants, whilst bathing his clothing is thoroughly fumigated and disinfected.
>
> The management of the barracks is entrusted to a police official who is fully versed in all matters relating to embarcation, and daily sanitary inspections by the doctor appointed by the Board of Emigration control the state of health of the passengers, who are again examined by another government physician before embarcation and on boarding the steamer for the fourth time by the ship's doctor.
>
> You will perceive by this that the Russian emigrants from the time they have crossed the German frontier are constantly under medical control, and that the German passengers for our steamers are under supervision of medical men during the whole time they stay at Hamburg. We doubt that more can be done. Any further propositions you can make us will be gladly attended to.

Note the date of this letter: Aug. 10, 1892. Its note of confident efficiency was evidently sincere. Yet on the same date, cholera had already broken out in the doomed town, though it was not till next day, August 11, that the first case of cholera was recognized as such. As Professor Winslow has written with a keen sense of the dramatic, "at the very moment that Dr. Baum sat in the offices of the Hamburg-American Line and described the excellence of the German quarantine system, events were in process which were destined to bring all his confidence to naught. Somewhere—in an obscure tenement or in the bunk of some ship in the Elbe river—a victim of cholera must at that moment have been lying on a bed of pain. . . ."

By August 16, if not earlier, the onset of an epidemic was officially recognized. Whence had the infected person or persons come, and how had he or they escaped through the fine meshes of the net woven by the German public

health authorities for the purpose of keeping cholera out of their country? We shall never know. But we do know a good deal about the Hamburg epidemic itself, how it spread from one person to another and approximately how many deaths it caused.

The population of Hamburg at that time was about 600,000. Cholera attacked about 17,000, of whom about 8,600 died. Altona, a town adjacent to Hamburg, almost completely escaped it.

Why did the outbreak flare up in Hamburg and not even smolder in Altona? As they sought to answer this question, the public health authorities of both towns remembered that their water supplies were independent of each other. In Hamburg you drank water drawn more or less directly from the Elbe. In other words, you drank highly diluted sewage which had not been subjected to any really effective purification. As we look back, this state of affairs seems almost inconceivable in a day less than half a century ago. In Altona, however, you drank water which had been subjected to a process of filtration. The cholera germs, then, which had traveled without hindrance from the Elbe to the drinking glasses in Hamburg, had been arrested on the way to the drinking fountains of Altona. It is doubtful if ever before or since has such a clearcut proof been given on a gigantic scale of the cause of violent outbreaks of cholera. How Robert Koch must have thought, if he did not say so at the time, "I told you so!"

The epidemic spread from Hamburg to several other towns in Germany but failed to secure any prolonged hold in a country whose medical authorities were now fully alive to the connection between cholera and drinking water. Though earlier epidemics in Germany had lasted an average of ten years, this particular epidemic was completely suppressed in about three years, thanks to the application of Koch's theories. In the meantime, the disease had not been limited to Germany. The port sanitary authorities of every country within striking distance of Hamburg were on guard, but in several cases it proved impossible to keep the disease out.

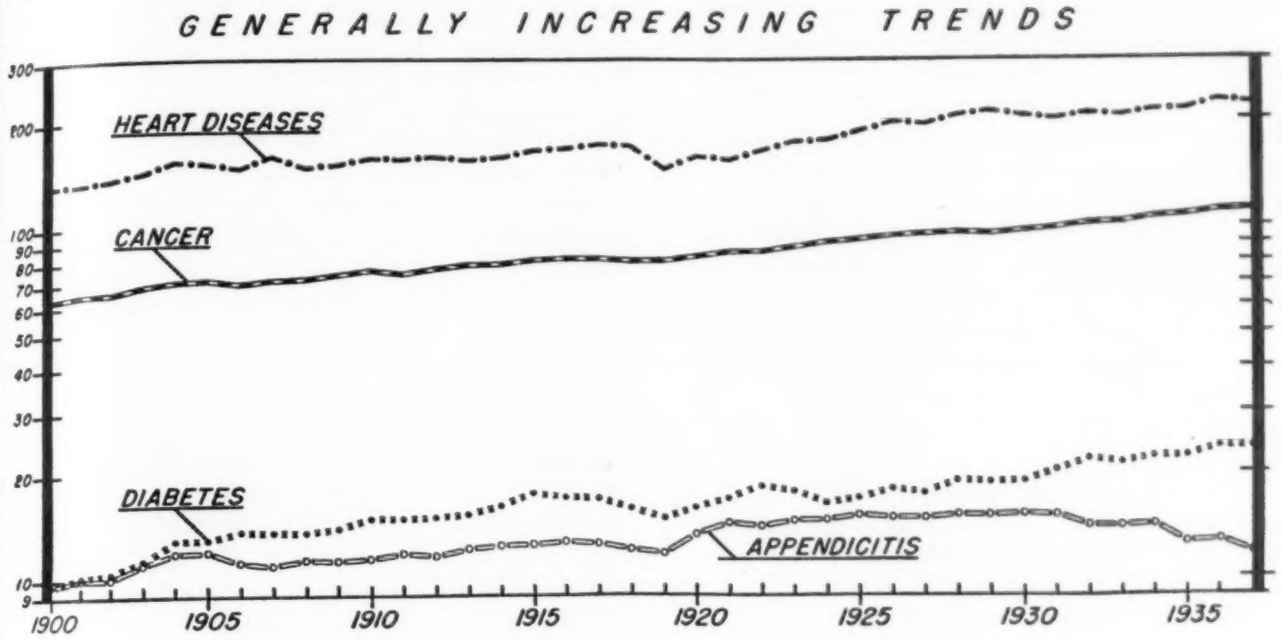
New York was particularly threatened because of the vast influx of immigrants from Europe. Disaster might have been swift and overwhelming had not the medical men responsible for the health of the city been of the finest temper. It was sorely needed, for New York was exceptionally vulnerable. The Chamber of Commerce appointed an Advisory Committee on Cholera, on which Dr. Biggs served. With his inside knowledge of the problem gained from his bacteriologic studies and his recent visit to certain European ports, including Hamburg, he was exceptionally well placed to foresee the dangers ahead. In his mind's eye he saw ship after ship hourly drawing nearer to New York, all of them with cases of cholera on board.

The mayor of New York issued a proclamation in which all the city departments and the citizens in general were called on to cooperate with the board of health. The water supplies of the city were scrutinized by men who did so with Koch's theories as to the spread of cholera always in their minds. The inspectors of food and milk were urged to be more vigilant than ever, and some fifty doctors were engaged to work in the tenements, where it was feared the disease might take a heavy toll in the autumn. A sanitary inspection of the tenements was carried out, and steps were taken to correct any condition calculated to give cholera a foothold once invaded. Dr. Biggs and his colleagues must have felt like the chiefs of some walled city threatened by the approach of a hostile army only a few days' march away.

On Aug. 31, 1892, the first infected ship, the *Moravia,* reached New York from Hamburg. She was followed in rapid succession by several other ships from the same port. Meeting these incoming cargoes of cholera was a small band of health officials called on to solve dozens of problems at a time. Quarantine and all that it implies upset every one concerned. There were not only the sick and dead on board with which to be dealt but also frantic passengers who might or might not be infected, as well as their panic-striken friends on shore. The tale the *Moravia* had to tell of more than a score of deaths during the voyage from Hamburg was repeated by several other ships that followed her from the same port. It was not the only source of danger. For the *Wyoming,* which had sailed from Liverpool with an apparently clean bill of health, also proved to be infected. Fortunately, she was still quarantined when several cases of cholera broke out among her passengers.

So effective were the measures put into force in New York that the shiploads of cholera-infected patients from the ports of the Old World did not bring wholesale disaster to the New World. There were, indeed, as many as forty deaths from cholera among immigrants at Swinburne Island and other places in the port, but there were only ten definite cases of cholera among the residents of New York, and each of these cases was in a different part of the city. The old established system of quarantine, supplemented by the then recent discoveries of Louis Pasteur and Robert Koch, had saved New York from wholesale tragedy.

[Conclusion]



CANCER

Its Cause and Prevalence

By EMIL NOVAK

AT FIRST THOUGHT it would seem difficult to extract any measure of hope from such a gloom-laden subject as cancer. However, the cancer situation is not quite as hopeless as most people believe; in fact, in many cases it is indeed encouraging, and there are genuine grounds for believing that prospects for the future are even better.

But, of course, there is ample reason for the growing concern of both the public and the profession over the advancing toll exacted each year by cancer; it is now exceeded in mortality only by the group of heart diseases. This requires a word or two of explanation. The average individual of today may expect to live until about the age of 60, fully twelve years more than the normal life expectancy only a generation ago. This lengthened life span is due chiefly to the tremendous lowering of death rate from diseases of early life, such as the digestive and nutritional disorders of children and the contagious diseases. As a result of these advances, for which the medical profession may justifiably claim credit and of which it is justly proud, a far larger proportion of human beings reach the years when cancer begins to strike, and therefore proportionately more cases of cancer are seen. And so, the enormously increased death rate from cancer is apparent rather than real. It should be added that there are some authorities who believe that aside from this apparent increase, there is some genuine increase in cancer incidence. This is doubtless true with reference to certain special types of cancer, such as cancer of the lung, but there is doubt as to whether it applies to cancer in general.

No less than 150,000 persons die in the United States each year of all forms of cancer. When one stops to think that a large proportion of these are men and women in the prime of life, one can understand why the problem is at last exciting the concern not only of individuals but also the local and national governments.

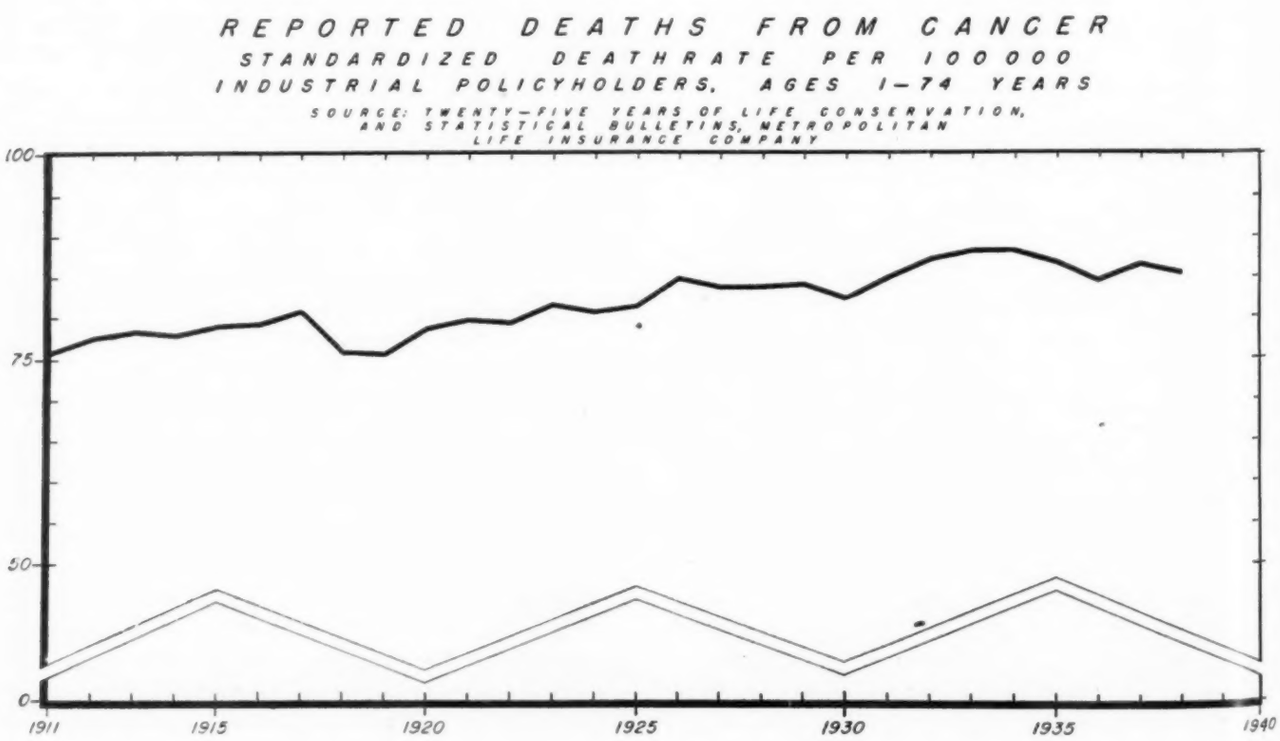
Ignorance as to the real nature and cause of cancer, as well as the limitations of present day prevention and treatment of the disease, is reflected in the prevalent attitude of helpless resignation. Cancer may well be spoken of as a gangster disease, for it strikes ruthlessly, without warning and in the dark, carrying fear to the heart of its possible victim, which means any human being. It is just this attitude of fear which gives the gangster such an enormous

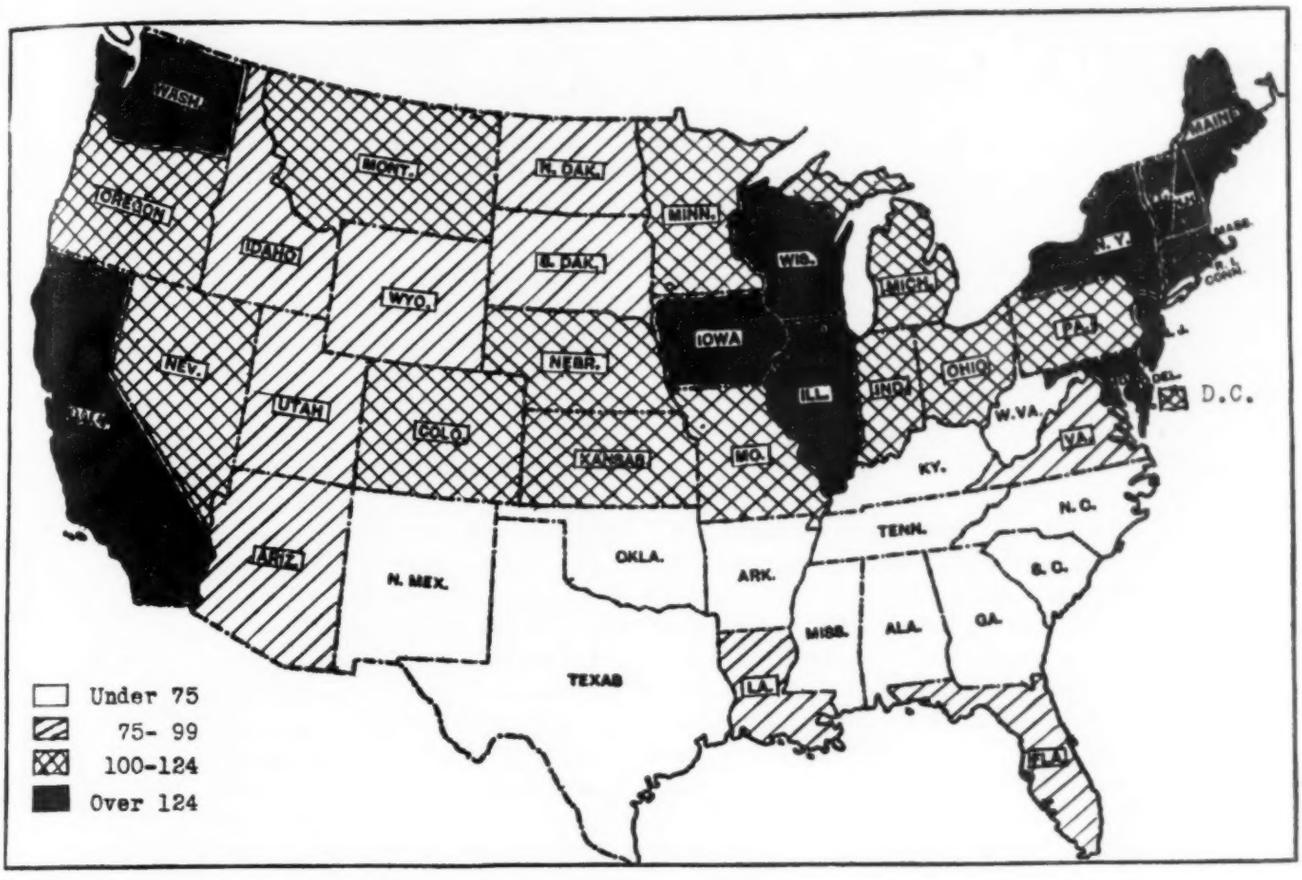
advantage over his victim, and it is just this fear which has hampered efforts to control the cancer gangster. The way to fight the gangster is to bring him out into the open. Any of us would rather meet such a killer in broad daylight on a public highway and protected with a good weapon than to encounter him unarmed in a dark alley at midnight. This, in a nutshell, is what we are trying to do in the public campaign against cancer: specifically, to place certain weapons in your hands for your protection, and to strip the disease, bad as it is, of some of the mystery and often the unreasoning dread which has given it such a powerful hold over its victims.

It is this policy of bringing the enemy disease out into the open which has accomplished so much in the control of tuberculosis and which is expected to do much in the control of another great enemy of the race, syphilis. Psychiatrists have learned that the way to fight the innumerable nameless terrors which fester in many subconscious minds, often destroying them, is to bring them out into the open, to ventilate the mind so thoroughly that the fears will evaporate. The unreasoning fear which makes people shun talking about cancer or else speak of it only in whispers should likewise be dispelled, not only because it makes many persons unhappy, but chiefly because it is unquestionably responsible for a considerable proportion of cancer deaths. The minute that people begin to talk and think freely about cancer, to open their ears and minds to simple truths that may be life saving, a great step forward will have been taken. One might well get the impression, from the prevailing public attitude toward cancer, that it is a shameful disease, which of course it is not. It is just as respectable a disease to have as, for example, heart disease.

Just what is a cancer? it may be asked. Many laymen think of it simply as being a horrible eating sore of some kind, but this is not necessarily true. As a matter of fact the term cancer really refers to a whole group of diseases, the characteristics of which present many variations. To understand what it represents, one must remember that the entire human body consists of millions of individual cells, arranged in colonies according to their kind and function, these colonies representing the different organs and tissues of the body. Under normal conditions, these cells perform their special functions in an orderly fashion, living in harmonious relation with all the other constituent body cells. When a cancer develops, however, it appears that a group of cells have gone on the "war path" and continue thereafter to lead an outlaw life hostile to the rest of the body. If this happens to occur in the stomach, for example, instead of the cells carrying on their useful function in digestion, they not only give up their assigned work but grow at the expense of the body. They do nothing but breed their own kind, often rapidly, and make increasing inroads on the surrounding tissues.

But this is not all, nor is it, indeed, the most serious of cancer characteristics. The property





The resident death rates per 100,000 are broadly grouped by states according to reported cancer deaths in 1935.

which makes the cancer the deadly disease it is, comes from the fact that the cancer cells, at first growing locally, sooner or later make their way into the blood and lymph vessels, by which they are transported to other and perhaps distant parts of the body. In other words, the cancer "gets into the blood," and this it is which so often seals the patient's fate. Once this has occurred, it can be seen that no matter how thoroughly the original site of the disease is removed, the seed has already been carried elsewhere to continue its wicked course of destruction.

It is this unique invasive property of cancer cells which distinguishes them from other tumors that are not malignant. Noncancerous tumors even of enormous size and weight may be removed with no fear of return and with the expectation of perfect recovery by the patient. On the other hand, even a small cancer can carry with it no such certainty; the result depends on whether or not the dreaded dissemination has already occurred.

In its beginning, every cancer is a local disease, though no one can tell when the seed will spread; the length of time for this varies widely in different cancers. The practical point is that if the cancer is thoroughly removed or destroyed before the dissemination takes place, the patient is sure of cure. The crux of the whole problem, therefore, is to receive the proper treatment at the earliest possible moment, hoping to get ahead of the dissemination of cancer cells, which is sure to come sooner or later. If every cancer could be properly treated in such a preinvasive stage, no one would have to die of cancer. The prime purpose of all cancer education both of the laity, or general population, and the doctors is to advance as far as possible toward this goal, as yet inaccessible.

What is the cause of cancer? The simple truth is that no one knows, though we have accumulated a vast amount of knowledge about the general characteristics of the disease. We know, for example, that prolonged irritation of any sort appears to predispose to the development of many types of cancer. Many illustrations might be brought forward on this point. One of the best is the direct relation between cancer of the oral cavity, or mouth, on the one hand, and excessive smoking or the presence of irregular, jagged teeth on the other. The chewing of the betel nut, the seed of a species of East Indian pickle, is *(Continued on page 835)*

HYGEIA in the SCHOOL ROOM

By FREDERICK H. SCHROEDER

INSTRUCTION in personal hygiene in one manner or other is part of the program of most secondary schools. In some, a certain amount of this instruction is incorporated in the gymnasium and athletic training, while in others it is presented as a separate academic course. Opinion is divided as to whether or not a separate course in personal and community hygiene should be required of all students. In many colleges this subject is an elective, rather than a required course.

Apart from any question as to the value of a well planned hygiene course, from either the personal or the public health point of view, it is often a problem to find room for it along with the great number of diverse subjects in the crowded modern curriculum. Thus we must have excellent reasons for adding any required course to a modern school program.

It seems obvious that with the conditions of present day American life, a child's first thorough instruction in some of the facts of personal health should come many years before he reaches the junior college age. If such instruction has been received it is a question whether or not it should be repeated, with the chance of boring the student. Presenting this subject on an advanced or semitechnical basis may be an answer to the question; yet we must not overlap to too great an extent our elective biologic science courses.

A two unit course in hygiene is required for graduation from Santa Ana, Calif., Junior College. We are under no illusions that the majority of good or bad health habits are not already strongly established by the time the boy or girl finishes high school and that to change these habits more or less completely

is highly visionary. We attempt to make the approach logical and scientific, giving the reasons for our health rules so that the students may interpret for themselves certain of the more obvious biologic facts and evaluate new data and arguments which they are certain to hear in the future. We find continual evidence that much of our energy is most profitably spent in teaching what might be expressed by the term "sales resistance." It is altogether likely that no place in the world can be compared with southern California in the amount of quackery, cults, nostrums, irregulars, money-taking health fads and "patent medicines," which is to be found. Legal control of these things seems to be more or less at a standstill. It is beyond our power to cope with the matter directly at present; but when barrages of pseudoscientific propaganda reach such volume as to obscure most logical ideas, we find that even those relatively few people, who otherwise think for themselves, grow to accept various kinds of nonsense. It is this tendency which we attempt to counteract.

The purpose of our health course, then, is to outline a system of health rules and a philosophy of sane living, explain the logical and scientific basis for most of this and expose as much pseudoscience as it is possible for us to do under the circumstances.

To develop a well balanced course it seems obviously desirable to supplement class lectures with worthwhile authoritative, up-to-date reading. In this subject in particular, we must try to avoid dry or "trite" assignments. We find that HYGEIA, which we have been using for assigned reading, is worth while, authoritative and up to date. It is more readable and attractive than a textbook, and, since a new issue comes out each month, it holds all the attractiveness of magazine reading.

In our course we give two one-hour lectures each week. We use no textbook and require little outside reading other than HYGEIA. No term paper or other written work is required, except that we give rather thorough and searching tests over the class lecture material and the reading assignments in HYGEIA.

The person who prepares the tests first reads the articles, then makes a list of articles that can best be eliminated. On the subjects, which for our purpose are most important, are compiled the questions which comprise the objective tests. These consist of true-false, multiple

Our health course aims to deliver a philosophy of sane living, to explain the logical and scientific basis for the common sense rules of healthful living and expose the fallacies of pseudoscience. HYGEIA fits into this plan well, and students prefer it to a textbook.

Hyde Park High School, by Stadler Studios

choice and completion type questions. The tests are checked to avoid questions which might either be too general or be hard for the student to understand. When it is felt that as good a test as possible has been prepared, the test is stenciled, and as many copies as are needed are duplicated.

In grading true-false tests the number of mistakes that the student makes is subtracted from the total of his correct answers. This partially eliminates the guessing factor. Assuming that a student will guess correctly about one-half the answers which he does not know, he will average about a zero grade on these answers. We endeavor to have about 50 per cent of the statements true and 50 per cent false so that the student who is more prone to guess one way or the other will also guess correctly only about half the answers. We feel that our wording is done carefully enough so that the average student will not guess more than half correctly. What checking we have done seems to verify this.

In making up the multiple choice type questions, it is necessary to be sure that the correct answers are found in each of the possible positions about an equal number of times, but in an irregular manner. This way the student will not guess correctly an undue proportion of the answers by habitually checking certain letters.

The completion type questions the student has no difficulty in answering correctly, if he recalls the material, and there is no guessing involved here.

All of these types of questions are objective, which makes them easy to score impartially. The completion type emphasizes the memorizing of names, terms and so forth. The multiple choice type places a premium on recognition rather than recall and if poorly worded by the teacher gives the student a chance to guess. But neither is so well adapted to testing for details as the true-false type which can be made up of specific, complex statements. This is ideal in many ways, and even when a great number of questions is used it is satisfactory. A modification in the use of true-false questions is to have the student correct the false statements or perhaps to have him underline the parts of the statements which make them false.

Naturally this type of test requires more effort and time for preparation, but the redeeming part is that the papers can be corrected by a good reader in a short time.

Result of a Student Survey Regarding HYGEIA

As the result of a questionnaire which was conducted among the 149 students in this semester's Health Class, a few significant facts were discovered.

One hundred and one of the 149 students take advantage of the excellent student rates which are given them by subscribing to the magazine. Eighteen of the remaining students read and study the copies which the school library furnishes for those who wish to study in the library. Eleven reported they purchased directly from the newsstands, while eleven more stated that they borrowed the magazine from a friend.

It is interesting to note what becomes of the students' past issues of HYGEIA. One hundred and two students report that they save their past issues for future reference, while twelve students pass their magazines on to friends. Only eight state that the magazines are destroyed.

Many students report that their copies are also read by members of their families. It was discovered that besides the 149 students who read HYGEIA, there are also 175 parents and 14 children at home who enjoy the magazine.

Forty-nine of the 149 students had read HYGEIA at some time or place before attending this Health Class, but 97 students had never read HYGEIA before attending Santa Ana Junior College.

Thirty-seven of the students designate that they intend to renew their present subscriptions, while one student wrote, "My parents intend to!"

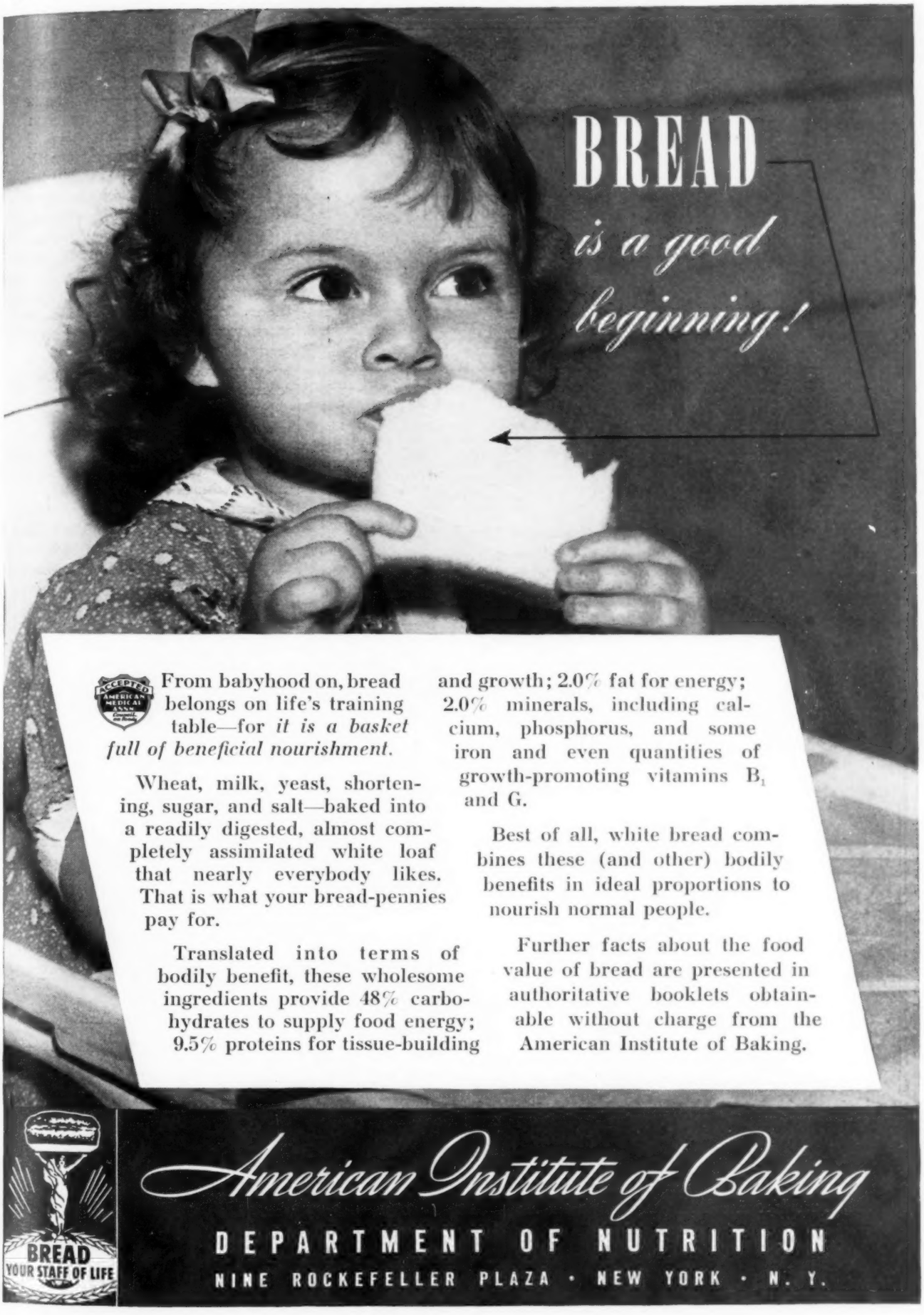
Most of the students (138) thought that HYGEIA is interesting for both children and adults, as some of the articles are interesting to either. However, seven students thought that the articles are too difficult, while four wrote that the articles are too easy!

One hundred and forty-six of the 149 students are entirely satisfied with the present plan of *no* written term, or "theme" papers; in place of these HYGEIA is read as outside reading, and tests are given in class to see how well each student has absorbed what he has read.

One hundred and thirty-seven students voted that they much preferred the present type of test which is made up of true-false statements, multiple choice and completion type questions. Only twelve students voted that they would rather write essay type examinations.

When asked, "Would you prefer to have a regular textbook for this course?" 144 students voted "No" and most of them heavily underlined their "No's." Five students, however, thought a regular textbook would be better.

We think this little survey regarding HYGEIA proves that the students are well satisfied with the use of this current health publication.



From babyhood on, bread belongs on life's training table—for *it is a basket full of beneficial nourishment.*

Wheat, milk, yeast, shortening, sugar, and salt—baked into a readily digested, almost completely assimilated white loaf that nearly everybody likes. That is what your bread-pennies pay for.

Translated into terms of bodily benefit, these wholesome ingredients provide 48% carbohydrates to supply food energy; 9.5% proteins for tissue-building and growth; 2.0% fat for energy; 2.0% minerals, including calcium, phosphorus, and some iron and even quantities of growth-promoting vitamins B_1 and G.

Best of all, white bread combines these (and other) bodily benefits in ideal proportions to nourish normal people.

Further facts about the food value of bread are presented in authoritative booklets obtainable without charge from the American Institute of Baking.

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American Institute of Baking

DEPARTMENT OF NUTRITION

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To care for

YOUR TEETH

Is to care for

YOUR HEALTH

▼

OF first importance in the care of teeth is to keep them clean. And to aid the brush in cleaning the teeth is the sole function of any dentifrice.

That is one reason why we urge you to use our Baking Soda, Arm & Hammer or Cow Brand. For it does clean teeth thoroughly, removes accumulated debris by detergent action, cleanses the mouth and leaves it pleasantly refreshed.

The other is its low cost—just a few cents for a single package that will last for weeks. Quite a saving in the cost of dentifrices, particularly when families are large.

Our Baking Soda is one of the dentifrices acceptable to the Council on Dental Therapeutics of the American Dental Association. It is pure Sodium Bicarbonate, meeting all the requirements of the U.S.P. and can be confidently used whenever that essential drug is needed.

One or the other of our brands is available at your grocer's.

Business Established in 1846

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10 Cedar Street New York, N.Y.

NERVOUS FATIGUE

(Continued from page 782)

biologic, or a mind-body, problem. Sometimes a change of environment is necessary in order to reorganize the patient's total situation. In extreme cases, a physician will be required who may employ all types of therapy. Sometimes the pattern of the disturbance may reach to deeply "subconscious" levels, in which cases psychoanalytic measures may be most useful. Some persons work so hard and keep themselves so tired that in their intensity their energy drives that lead to fatigue and disability may be compared to the so-called unconscious "suicide" drives.

Nervous fatigue is a condition which can be avoided as definitely as contagious disease. A long time is required for it to develop to the extent where it is disabling, and sometimes even longer for recovery. If one would avoid the conditions which are associated with it, one may try the plan of adopting a level of activity to which he is suited and follow it carefully. Acquiring for oneself an adult attitude toward life and the recognition of one's capacities and limitations without mental evasion are mentally hygienic attitudes useful in maintaining normal states of mind, as well as in the exercise of reasonable control over instinctual and emotional drives. These features are certainly hallmarks of a well integrated personality, and for such there seems to be minimal internal friction and the least chance of disability from nervous fatigue.

He Isn't Goin'ta Hurtcha!

"Now, he isn't goin'ta hurtcha!"
What an error in child nurtcha—
What lack of parental virtcha
Do those silly words reveal!
I have yet to see a child
Whom they've not made still more wild,
Utterly unreconciled
To the chap who tries to heal.

By PARK J. WHITE Jr.

Chocolate Flavored Milk Drinks

CHOCOLATE flavored drinks containing milk, popularly known as "chocolate milk," have special appeal to persons who "do not like" or think they cannot drink plain milk. Once regarded only as a summer beverage this drink is now on the all-year list and may be served either hot or cold.

Chocolate flavored drinks usually contain skimmed milk and a drink base composed of sugar, cocoa (or cocoa and chocolate), salt, vanilla or vanillin and a small amount of an emulsifying agent, such as tapioca, to prevent the cocoa from settling. The drink base, either sirup or powder, is added to the skimmed milk, and the temperature of this solution is maintained for thirty minutes between 60 and 65 C., after which it is cooled and bottled for distribution. In many communities whole milk, which supplies additional nutritional values, is used in place of skimmed milk. The Council on Foods of the American Medical Association requires that bottle caps of accepted chocolate flavored drinks bear a descriptive statement listing the ingredients of the beverage in the order of decreasing proportion by weight. For example, the bottle cap of an accepted chocolate flavored drink carries the following statement: "Pasteurized, chocolate flavored, sweetened, partially defatted milk; added tapioca and salt."

How To Make Milk Rebels CHEER!

● Just serve them Krim-Ko *with* meals and *between* meals. Its true, delicious chocolate flavor is loved by all. Krim-Ko is made and pasteurized by selected local dairies. It contains all the Calcium, Phosphorus, Vitamin "G" found below the cream line of milk—is equal to fresh milk in food energy value.

Krim-Ko is readily digested. Can be taken in mid-morning or mid-afternoon without interfering with the appetite for regular meals. Give it to the children when they ask for candy. It's tempting as a chocolate soda . . . and it oftentimes puts a stop to "milk fussing."

FREE Diet Information

If you have cases of "milk fussing" or milk refusing, on which you would like to test Krim-Ko, we shall be glad to furnish you with complete information about Krim-Ko and its place in the diet. Write today to the Krim-Ko Company, 4830 S. Christiana Ave., Chicago, Ill.

Krim-Ko is chocolate flavored, pasteurized, partially de-fatted milk (added tapioca salt).

KRIM-KO

REG. U.S. PAT. OFF

CHOCOLATE FLAVORED DRINK

SEX EDUCATION PAMPHLETS

A Series by Dr. Thurman B. Rice

★ **THE STORY OF LIFE**

For boys and girls ten years of age, telling them how the young come to plants, cold-blooded animals, domestic animals, and human parents.

★ **IN TRAINING**

For boys of high school age, interpreting their adolescent development in terms of athletic and other achievements which they can understand and admire.

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For girls of high school age, explaining how they are to be mothers of the men of tomorrow.

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For young men and women, dealing with the problem as a unit for both sexes instead of segregating the information for each sex as in the older teaching methods. The method is frank, courageous and idealistic.

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For both sexes, high school age or older. Straightforward and complete but not morbid. As in the preceding pamphlet, the information is given for both sexes to both sexes.

Prices

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5 to 50 copies, assorted, **20 cents each**
51 to 100 copies, assorted, **16 cents each**
101 to 500 copies, assorted, **14 cents each**

(Remittance in full must accompany each order)

File Case

AMERICAN MEDICAL ASSOCIATION • 535 N. Dearborn St., Chicago

The composition of an accepted chocolate flavored drink may be as follows:

	Per Cent
Water	80 to 83
Carbohydrate	12 to 16
Protein	2.3
Fat	1.4 to 2
Ash	0.7 to 0.9

The chocolate flavored drinks containing skimmed milk supply approximately twenty-two calories to the ounce; whereas, whole milk furnishes about eighteen calories to the ounce. Although chocolate flavored drinks have a somewhat higher caloric value than whole milk, they provide slightly less calcium, phosphorus and vitamin B_2. The vitamin A content of the chocolate flavored drinks containing milk may range from a negligible amount to slightly less than that of whole milk, depending chiefly on the amount of butter fat present in the milk ingredient.

The question sometimes is raised about the stimulating substances that may be found in cocoa and chocolate, namely caffein and theobromine, substances which are found in ordinary tea and coffee and in some soda pops. The development of a habit of consuming chocolate flavored drinks, in any way analogous to the tea or coffee habit or that of taking stimulating soda pops, has not been observed.

Ordinarily, children will not choose chocolate flavored drinks exclusively; but occasionally this beverage is a welcome interlude. It also has been found that the drinking of chocolate flavored drinks containing milk leads to a greater consumption of milk. Frequently, children take the chocolate flavored milk first and the plain milk afterward. By this means children have been induced to consume their needed ration of this fluid.

Chocolate drinks containing milk are also popular for "between-meals" or "after school snacks." They can be served hot in the home if desired. When taken before retiring, such a drink may produce a feeling of relaxation.

Chocolate flavored milk drinks containing chocolate sirup or powder, and selling as Choc-Lade, Five-O and Krim-Ko, have been found acceptable by the Council on Foods of the American Medical Association. Look for the seal of acceptance on the bottle cap of the chocolate milk drink distributed by your dairy.

PARENT

He had the wisest things to say
Until he found, to his dismay,
His children, unimpressed by seeds
Of oral wisdom, aped his deeds.

ELEVEN

She stares with brown Alice-in-Wonderland eyes
At vacant expanses of wall;
Her mother can't break through her dream, and she sighs
At a daughter so useless and tall.

Her legs are a wiry arrangement for flight,
Her body's alert in repose.
Like robins at rain-pools consumed with delight,
She mirrors each feminine pose.

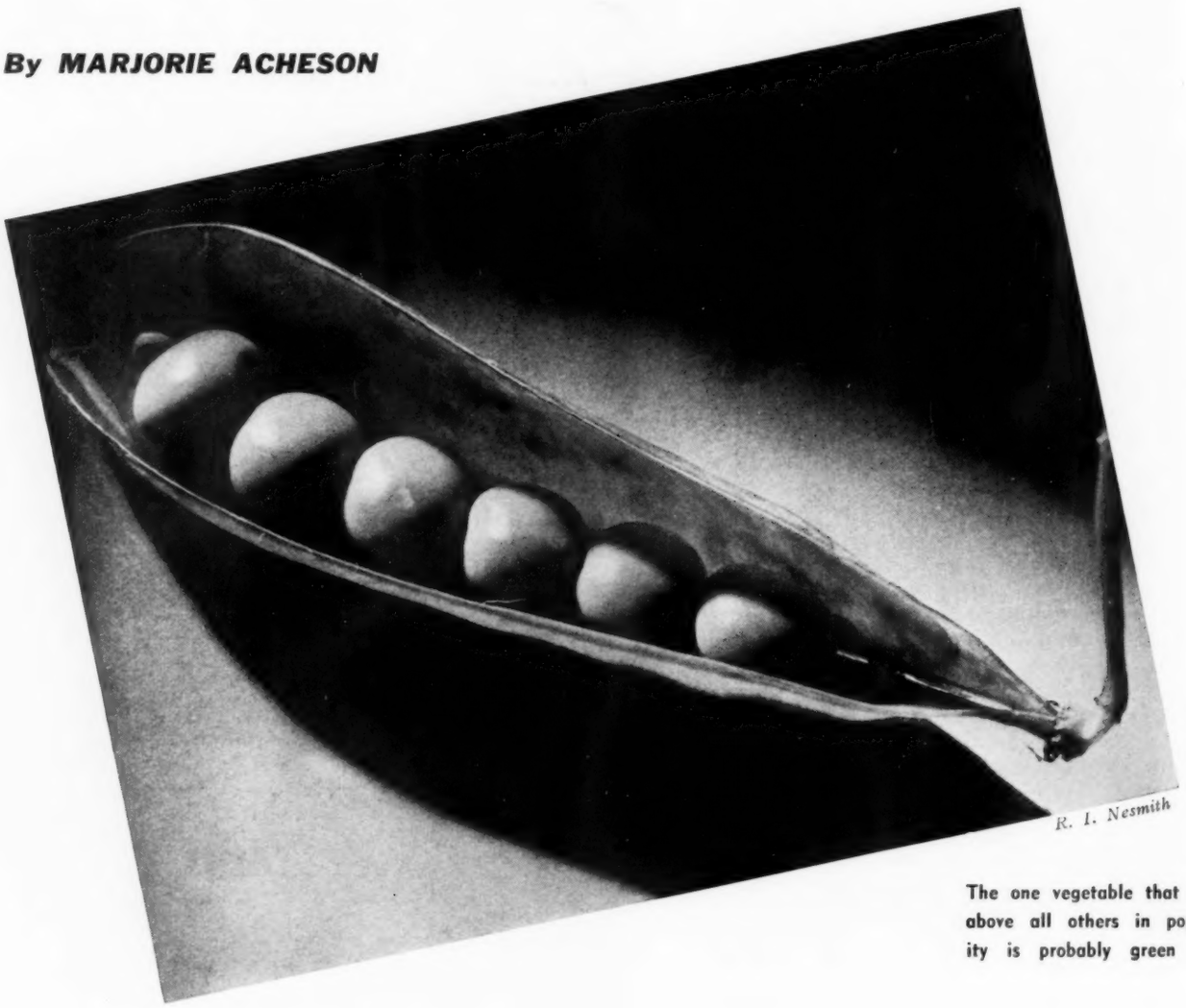
Her days are an hourless procession of fun,
Her laughter falls quick as a tear;
Yet, impatient to have her brief childishness done,
She frets at the length of a year.

By VIRGINIA BRASIER

MOTHERS: Give your family all the Dole Pineapple Juice they want. It's the pure, unsweetened juice of sun-ripened pineapples. Quickly available food energy.

DOLE *PINEAPPLE JUICE FROM HAWAII*

By MARJORIE ACHESON



R. I. Nesmith

The one vegetable that ranks above all others in popularity is probably green peas.

SING A SONG OF GREEN AND YELLOW!

POETS sing of the night time, beautiful eyes and fair complexions. Writers of song and verse never mention a sniffling Romeo or Juliet or even a sinus headache. Yet our scientist friends tell us that wheezing and sneezing may be caused by lack of the same factor that makes beautiful healthy eyes and skin.

Though stars, the moon, shadows and darkness may be romantic and lovely to some persons, to others night time is a necessary evil which must be endured eight to twelve hours out of the twenty-four. We no longer fear lurking beasts of prey; yet many persons fear the dark because they cannot see at night. Perhaps this is night blindness, which would make it especially hazardous for the automobile driver at night. This disease, as well as some skin conditions and frequently recurring infections of the respiratory tract, may be helped or even prevented by adding adequate amounts of vitamin A to the diet.

Perhaps the poet who wrote of color that "Yellow laughs, and green sings" was thinking of the vivaciousness that radiates from persons who are in good health and who eat the right foods. Of course, it is possible to buy vitamin A in bottles and boxes at the drug store; but most normal adults get sufficient vitamin A in their daily diet. An even greater advantage in using natural foods to generate healthy eyes, skin and mucous membranes is that these colorful foods add enjoyment to eating. One has only to think of a table of food devoid of the yellow of cheese, egg yolk, carrots, apricots, butter, squash, sweet potatoes and pineapple to know why "yellow laughs." In summer, the cool of gay green spinach, chard, lettuce, peas, string beans, broccoli and brussels sprouts soothe and refresh; while in the winter, the disappeared-from-the-earth color adds life to our sluggish appetites.

The cow also belongs in this picture. She is able to take the green food, which contains the important yellow pigment called carotene and manufacture vitamin A rich milk. Vitamin A is also stored in the liver and in the body fat. This makes liver a valuable source of protection from eye, skin and membrane infections.

Because liver once a week is one of the requirements for an adequate diet, it is well to dress it up once in a while. With the following recipe, this simple trick is easily accomplished:

LIVER LOAF

(5 servings)

½ pound of ground liver
½ pound ground round steak
1 egg well beaten
1 teaspoonful salt
1 teaspoonful Worcestershire sauce
2 raw carrots, cubed
¼ green pepper
½ cupful cracker crumbs
¼ cupful peas
Milk or cream to moisten the top of the loaf

Mix lightly the first five ingredients. Though the liver makes the mixture very thin, heat from baking will thicken it satisfactorily. Add the vegetables and crumbs, mix lightly, and mold in a buttered baking dish. Use a spatula to push the loaf away from the sides of the dish. Moisten the top of the loaf with milk or cream. Bake at 325 F. for 1½ hours. Add milk whenever the top has absorbed the liquid. Serve with:

TOMATO SAUCE

1 can of tomato soup
½ teaspoonful Worcestershire sauce

Heat the tomato sauce, add the Worcestershire sauce, and pour over the liver loaf. Garnish the platter with parsley. Serve at once.

Jabbing a dandelion flower under one's nose or chin to see if one liked butter was a childhood trick. It was a never-fail test: One always did like butter. In spite of this, there are many children and adults who do not like it. In families where there are rebels against butter on bread, extra amounts of it can be used in cooking, or additional milk and cream can be used. Many times children can be tempted to eat butter by molding it into fancy flower or vegetable forms.

Good for Quints,
Quadruplets too,
Triplets, Twins,
Or what have YOU!

WHEN there's more than *one* baby, the feeding problem isn't so simple! Sometimes the babies are premature—*so* frail and tiny. Seldom can the mother nurse the precious little mites. *Immediately* there's need for a milk that is extraordinarily easy to digest.

And very often, these days, the physician turns, with utmost confidence, to Irradiated Carnation Milk—the same milk that helped the Dionne Quintuplets through many critical months. During the past four years alone, the Carnation Company has records of 473 sets of triplets and twins whose doctors have started them on Carnation formulas!

The reason is that this heat-treated, homogenized milk is actually far easier to assimilate than milk in its usual form. It does not tax delicate digestive systems. It *agrees* with babies . . . and it nourishes them well. No milk could be better endowed with whole milk's wholesome goodness. And there's *extra* richness in "sunshine" vitamin D, needed for the development of strong, straight bones and fine, sound teeth.

Irradiated Carnation Milk is just as fine for healthy normal infants as it is for the difficult feeding cases. Ask your doctor for a Carnation formula for your baby; use Carnation as the older children's *regular* milk. And write Carnation Company, Dept. 701G, Milwaukee, Wis., for your free copy of "The Contented Baby."

IRRADIATED
Carnation Milk
"From Contented Cows"

A NATURAL SOURCE OF VITAMINS A, B AND C

Dr. Phillips CITRUS FRUIT JUICES

• Here is a way to add vitamins to your diet and give pleasure to your palate — drink Dr. Phillips Orange and Grapefruit Juice. Uniformly rich and full of flavor. Tree ripened and canned fresh from the grove under the most scientific conditions. Get several cans from your grocer today.

Dr. P. Phillips Canning Co
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For EVERY MILK PURPOSE

• Particularly for infant feeding, Van Camp's Evaporated Milk is widely recommended by physicians because it is uniform in composition and readily digestible. Used in cooking, it adds a rich, creamy flavor to many dishes. Contains double the amounts of fat, protein, minerals and milk sugar in cow's milk. Sterilized and homogenized.

Van Camp's EVAPORATED MILK — ACCEPTED AMERICAN MEDICAL ASSN. Council on Foods

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Now Baby's cereal tastes good, too

New Gerber's CEREAL FOOD

Gerber's CEREAL FOOD

WHITE STAR TUNA FISH — Chicken of the Sea FANCY TUNA

America's Favorites

THIS TOMATO JUICE IS NEVER THIN OR WATERY

Always drink Kemp's Sun-Rayed—the pure, undiluted juice of WHOLE tomatoes. Delicious. The Sun-Rayed Co., Frankfort, Indiana.

Church's Pure Natural Grape Juice •

made from properly ripened grapes. Contains no added sugar, water or other substance whatsoever.

Free from the excess acid of unripened fruit.

Church Grape Juice Company, Kennewick, Wash.

There is something novel in the unusual shapes that appeal more than the familiar butter dish or the rectangles on the bread and butter plate. The numerous paddle and butter molds in the kitchen furnishing department of stores are inexpensive and yet provide a decorative touch to the table and a great incentive to eat butter.

Vitamin A is lacking in fats of vegetable origin. This means that butter substitutes are not adequate unless some rich source of the vitamin has been added.

Since scientists have made us dose conscious, we often wonder whether our diet is providing an adequate amount of the necessary foodstuffs. Unlike the dose on a bottle or box of medicine an excess dose of vitamin A is advised for promoting health. The minimum daily dose for an adult is one pint of milk and three tablespoonfuls of butter. Children need two to three times this amount.

Every picture of Humpty Dumpty sitting on a wall shows him to be a very haughty person—far to uppity to be only a humble egg. But perhaps he is thinking of the vitamin content of his yolk, which is certainly nothing to be dismissed lightly. Of all the foods there are only two, fish oil and liver, which surpass this aristocrat.

An egg a day may look like a horrible burden if you think of it in terms of a fried egg, a soft cooked egg or a hard cooked egg; but it will be as easy as falling off a log, if you let your imagination go. Your table will become a display counter for creations, not from Paris, but for perfect dreams from the kitchen. A delicacy which many cooks attempt with fear and trembling is omelet. It is easy to make a perfect fluff of an omelet, tender, light and tasty, providing you follow a few simple precautions. Use one egg and a tablespoonful of water for one serving. The water is added to the partially beaten egg white. This should be beaten with an egg beater, until the white will not slip when the bowl is inverted or turned sidewise.

Omelet

4 eggs
4 tablespoonfuls water
½ teaspoonful salt
Dash of pepper

Separate the white and yolk of the egg. Add the water and salt to the slightly beaten egg white. Beat until the whites will not slip in the bowl. Add the pepper to the yolk. Beat well. Add the yolk to the white, and fold together lightly. Melt a teaspoonful of butter in a skillet over a low flame. Pour the egg mixture into the warm skillet, and allow the layer next to the bottom to brown to a light golden color. Place the skillet under a low broiler flame until the omelet is firm enough to spring into place when touched light with the finger tip. The inside of the omelet should be well done, or it will fall as soon as it is taken from the oven.

Tomato Sauce for Omelet

2 tablespoonfuls butter
2 tablespoonfuls flour
½ teaspoonful salt
½ teaspoonful Worcestershire sauce
1 cupful strained tomatoes

Melt the butter, add the flour and salt. Gradually add the strained tomatoes. Heat between each addition of juice, stirring until the mixture is smooth. Add the Worcestershire sauce. Add this sauce to the omelet as the plates are served.

There is no place like a good cold refrigerator for storing eggs. Eggs that reach the refrigerator soon after being laid have a mild sweet taste, while eggs that have lain in the heat have a strong flavor.

Fresh, mild flavored eggs may be used for this luncheon salad.

Egg and Cheese Salad

Hard cook the egg yolks left from making angel food cake by dropping the yolks in salted water slightly below the boiling point. Cool the yolks. Dip each yolk into mayonnaise, then roll in grated cheese. Serve three egg yolks on

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a bed of greens for each individual salad. Lettuce, watercress or curly endive may be used. Garnish with sections of tomato or sliced olives.

The underweight child or adult may tip the scales at a new high by treating himself to a pineapple eggnog frequently.

Pineapple Eggnog

2 egg yolks or one whole egg
1 cupful milk
Pinch of salt
¼ cupful pineapple juice

Beat the egg yolks; if you use the whole egg, beat the white and yolk separately. Add the salt to the yolk. Slowly add the milk to the yolk; then add the pineapple juice and egg white, if the whole egg has been used.

In many homes Easter without baked eggs is unheard of. Just why this particular delicacy should be reserved for this once a year holiday no one knows. It is good the year around.

Scalloped Eggs with Cheese

(6 servings)

4 tablespoonfuls butter
4 tablespoonfuls flour
2 cupfuls milk
1 teaspoonful salt
1/16 teaspoonful paprika
2 tablespoonfuls butter (for the top of the casserole and for browning the crumbs)
½ teaspoonful Worcestershire sauce
½ cupful bread crumbs
6 hard cooked eggs
½ cupful grated cheese

Make a white sauce by melting the butter, adding the flour and gradually pouring in the milk. Stir constantly. Cook after each addition of milk until a smooth sauce is formed. Add the salt, pepper, Worcestershire sauce. Brown the bread crumbs in a small amount of butter in a skillet. Arrange in the buttered casserole first a layer crumbs, then the eggs which have been cut in half and placed yolk up. It may be necessary to cut a flat place on the end of the eggs to make them stand upright. Pour over the eggs the white sauce which contains the melted cheese. Dot the top with butter. Bake at 325 F. for 30 minutes.

Singing for one's supper wouldn't be bad at all, if one liked to sing and if one could be certain that the food would be worth the song. But many times vegetables seen served at suppers, lunches and dinners are not worth even the shortest ditty. Green vegetables, the easiest of all to cook and season, are often stewed and stewed until not only the beautiful green color is lost, but until nothing remains but a very soft mass with no natural flavor. Frozen vegetables are even more tender than the fresh, which means that they need to be cooked only about half the time that fresh vegetables require.

With the great variety of fresh, frozen and canned goods on the market, what to serve is not so great a problem as how to serve it. Green vegetables are best cooked on a surface burner or unit of the stove. All vegetables should be placed in boiling water, with the exception of greens, which are cooked in the moisture which clings to the leaves from washing. Salt should be added to the boiling water before the vegetables are put in, since the calcium loss due to salt is so minute that the improved flavor more than compensates for the loss. Green vegetables stay bright green if they are cooked with no cover on the kettle. If a cover is to be used in order to hurry the cooking process, wait until the vegetables have cooked three or four minutes. Soda should not be added to green vegetables because the vitamin C content is destroyed by doing so.

The modern decorative chop plate has been a boon for vegetable service. The vegetable connoisseur demands an array of cooked-to-only-the-right-turn plant foods. These may be arranged on a large plate or platter and served with a variety of sauces and seasonings. It is a good plan to serve one vegetable buttered and another with a sauce. Too many buttered or too many creamed dishes make an uninteresting meal. The latter make an unsightly plate.

Golden Vegetable Sauce for Green Vegetables

2 tablespoonfuls melted butter
2 egg yolks
½ teaspoonful salt
1 tablespoonful lemon juice

Combine all ingredients, beat them together until smooth, and cook over hot water. Stir until the mixture coats the spoon. Serve immediately on hot green vegetables.

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HEALTHGRAMS

FROM ARTICLES IN THIS ISSUE

¶A fundamental problem that the adolescent has to face is how to master and control the impulses and sensations that come with physical maturity. *See page 776*

¶Fatigue is a condition that is inevitable; it is the warning of nature that the time has arrived when the physical organism requires some measure of respite in order to be able to resume activity without impairment of efficiency. *See page 779*

¶Food intake, according to present day authorities, should be sufficient to maintain nutrition and energy at a plus level and to provide abundantly for growth and replacement of tissues. *See page 783*

¶Fear of being hurt is a characteristic trait of human beings, and during the milleniums of evolution it was invaluable for the continued existence of the race. *See page 786*

¶It is most important for the sake of the pregnant woman and her child to assure good posture, circulation, elimination and muscle tone. *See page 795*

¶The best hospital is that which is efficiently managed but whose personnel is imbued with the spirit of human friendliness and affection. *See page 805*

¶Educators have long known that the patterns of emotional reaction laid down in early years are apt to be the influential ones throughout life. *See page 810*

¶When barrages of pseudoscientific propaganda reach such volume as to obscure most logical ideas, even those relatively few people, who otherwise think for themselves, grow to accept various kinds of nonsense. *See page 822*

¶The minimum dose of vitamin A for an adult is one pint of milk and three tablespoonfuls of butter. *See page 830*

¶It is true that enuresis tends to wax and wane with changes in the general health. *See page 851*

CANCER—Its Cause and Prevalence (**Continued from page 821**)

associated with a high incidence of cancer of the cheek; just as excessive pipe smoking, especially of the old-fashioned hot clay pipes, strongly predisposes to cancer of the lower lip. Again, the lacerations and irritations of the uterus so common after childbirth are believed to predispose to cancer of that organ. And these examples might be multiplied.

But as regards the real underlying cause of cancer we know almost nothing, in spite of the vast amount of investigation directed to this problem. In the production of cancer two factors seem to be concerned: (1) some unknown constitutional factor present in some individuals and not in others, and (2) a persistent or chronic local irritation which excites this constitutional latency to produce real cancer. There are some persons in whom the constitutional cancer trend is so strong that the cancer may develop even without the factor of local irritation; just as in others, chronic irritation of one sort or another may be present for many years without exciting cancer. Since we know nothing about the constitutional factor concerned in cancer, we can do nothing about it for the present. But we can do something about the local factors of chronic irritation, for these are practically always easily amenable to simple methods of treatment.

The elimination of such irritative conditions gives the patient at least a measure of protection against cancer, and this represents about all that can be done in the way of prevention. Even this modicum, however, is well worth while, and there can be no doubt that such simple preventive measures have saved many lives. For instance, cancer of the mouth and oral cavity can be almost eliminated by the correction of three readily remediable factors: syphilis; bad teeth and badly-fitting dental plates, and excessive smoking. In the same way, cancer of the skin can be for the most part prevented by the prompt treatment or removal of irritated moles, sores which persist for a long time without healing and other such lesions. Again, women can be given at least some degree of protection against cancer of the womb by the simple correction of the long-standing irritative conditions which so often follow childbirth.

These facts, familiar enough to doctors, are of little value unless they are also appreciated by the laity. And exactly the same is true with reference to the early warning signs and symptoms of cancer itself. There are some persons who almost wilfully shut their ears to the efforts which the medical profession has been making to educate people along this line; they take the curious attitude that such things are the doctor's business and do not concern them. But how is the doctor ever to cure cancer unless the patient presents himself in the early curable stage of the disease? And how is the patient to do this, unless he has taken the trouble to learn just a few simple facts which should make him suspect that there might be something seriously wrong? No one wants to inflict the public with mere abstract medical knowledge, for this is not the layman's business or concern. The sole purpose of educational efforts in this field is to put into your hands the weapons which you need to protect yourselves against this gangster disease! Without these, you are helpless!

[NOTE.—Next month Dr. Novak will describe what symptoms indicate the presence of early cancer.]

RECIPE VARIATIONS EVERY COOK SHOULD KNOW

There are times when many a cook feels closely akin to Mother Hubbard. It's not that her cupboard is bare, but that occasionally it's bare of an important ingredient for making a favorite pudding, a prize cake or some other concoction she has planned.

But while Mother Hubbard and her dog had to accept their fate philosophically, a cook may often figure her own way out. If she knows the possible substitutions for certain ingredients, no one need ever know a kitchen crisis arose.

As long as milk turns sour and baking powder cans get empty at inconvenient times, the "baking powder and soda" formula is a good one to remember. In cakes, and all quick-breads but pop-overs, sour milk may be substituted for sweet, cup for cup. But for every cupful of sour milk there should be ½ teaspoonful of soda to neutralize the acid. This soda furnishes leavening power equal to four times its measure of baking powder —in this case 2 teaspoonfuls' worth. If the amount of soda needed to neutralize the sour milk in a recipe does not furnish enough leavening power, add baking powder to take care of the difference. If the milk is just turning sour, add only about ¼ teaspoonful of soda for each cupful. It is better to use too little than too much, because of the taste, odor and yellow color that result from an overamount of soda. Add the soda to the mixture by sifting it with the flour. If it is mixed first in milk, gas bubbles start forming immediately, and some leavening power is wasted.

Some cooks won't make cake or cookies if they find they've run out of the kind of shortening they ordinarily use. but almost any mild-flavored fat is satisfactory in baked products if proportions are modified slightly.

Butter and margarines are about 15 per cent water. So if these are substituted for lard or other fats that contain no water, add about 2 extra tablespoonfuls for each cup. Hydrogenated fats now sold under many brand names have air beaten into them. They may be substituted measure for measure for butter or margarines. But if they are used in place of lard, add 1 to 1½ tablespoonfuls for every cupful called for. Remember to add salt when unsalted fats are used instead of butter or margarine.

Borrowing a cupful from the neighbors is one way to meet the sugar shortage emergency. Another is to use brown sugar. About 1¼ cupfuls of brown sugar is equivalent to 1 cupful of granulated white sugar. If the brown sugar is lumpy, roll and sift it, then pack it loosely in a cup to measure.

Strained honey may also be used instead of sugar in cakes and quick-breads. Use it cup for cup in place of sugar, but reduce the liquid in the recipe. Honey has some water in it and also retains and absorbs moisture. Mix the cake by the ordinary method, except for combining the honey with the milk. Bake at the lowest temperature given.

QUESTIONS AND *Answers*

Muscles Used in Running and Reading

To the Editor:—How many muscles are used in running? How many muscles are used in reading?

C. W., Connecticut.

Answer.—There are about 750 muscles in the body, many of which are small, but all of which are necessary for movement of parts of the body. For example, there are over 150 muscles in the thighs, legs and feet of a person. Most of these play some role in locomotion and the maintenance of an upright position. In addition, there are some 200 muscles in the trunk. Running involves definite coordination of these muscles and the maintenance of well regulated bodily movements and position. All together, the voluntary muscles of the body constitute something like two fifths of the body's weight, and the majority of this amount of muscle is involved either directly or indirectly in strenuous running.

One means of measuring the amount of muscular activity is to measure the increase in oxygen consumption of a person who is active. There is an increase in oxygen consumption roughly proportional to the number and size of the muscles used. This type of study has been carried out by having the runner carry a special bag filled with oxygen on his back, from which he breathed. By this means, it is possible to calculate the metabolism of the body under conditions of activity.

It is impossible to say definitely how many muscles one uses when he runs. It depends on a number of factors such as the speed of running, the flatness of the country, the wind resistance, the distance and whether one is a trained runner or not, for athletes move with much more economy of motion than an untrained person shows.

Similarly, it is difficult to say exactly how many muscles are involved in reading. It, too, depends on many factors. Some two dozen or so relatively small muscles may be all that are involved directly in the act of reading something. Under most circumstances, however, many of the muscles that play a role in keeping the body upright are also involved in reading.

Allergy to Eggs

To the Editor:—I am so extremely sensitive to egg that even a minute amount of it in cooked food makes me violently ill. The recent question and answer you published about blood transfusion causing such sensitivity in a person for a short time after the transfusion makes me wonder if the mechanism could work in reverse; that is, if a person allergic to egg receives a transfusion from a person who has

Cy La Tour

There are 150 muscles in the thighs, legs and feet of a person and 750 in the whole body. How many of these are used in running?

just eaten eggs, wouldn't the result be an extreme systemic reaction?

Also, I should like to know if there are any drugs used in childbirth which should not be used on an allergic person.

Will nursing my baby increase the possibility of its receiving from me a tendency to allergic disorders?

H. F., California.

Answer.—The production of allergic reactions in sensitized patients from food allergens in the blood of donors has been reported for many years. The manifestations of allergy, be they asthma, hives or gastrointestinal symptoms, which usually occur in the patient, ordinarily arise from such transfusions. This illustrates the fact that the reacting allergic antibody which is present in the cells of all tissues in the allergic patient predominates in the tissues which give rise to the patient's symptoms. As such, they constitute the "shock tissues" for that patient. Because of these transfusion reactions, many physicians prefer to use fasting donors, the previous meal having been taken at least four hours before the transfusion.

Many patients sensitive to foods or inhalants also develop a sensitization to various drugs, especially if taken in large amounts with periods of abstinence of more than two weeks. Drug allergy may exist independent of other types of allergy. Often such drug allergies are recognized by the patient himself. Aspirin is the most frequent drug to produce allergy. Skin reactions to allergenic drugs are infrequent, though they do occur.

Though all people have a tendency to develop sensitizations to various types of allergens, this predisposition is definitely increased according to the amount of allergy which has affected the individual's ancestors. Inheritance predisposes to allergy of various types, and there is a tendency to develop allergy not only to the same type of allergen but also to the same kind of manifestation. This is not necessarily the rule. During uterine life, the baby may also become sensitized to various allergens entering the mother's blood, especially to foods eaten in excessive amounts and probably to inhalants which are in abundance in the atmosphere. During nursing, some evidence points to the development of sensitizations to allergens in the mother's milk. Babies rarely, if ever, are sensitive to the actual protein of mother's milk. Allergy resulting from mother's milk is usually due to allergens from foods eaten by the mother. Such disturbances have been relieved in a few instances by the elimination of the responsible foods from the mother's diet. The possibility of allergic symptoms especially in the gastrointestinal tract from cow's milk is greater than from mother's milk, though such difficulty cannot necessarily be anticipated. Thus, there is no definite contraindication to the nursing of the child, especially if there is plenty of milk and if it agrees satisfactorily. With such breast feeding, other foods including cow's milk in its various forms can gradually be added. This allows the exclusion of any food which proves allergenic and encourages a gradual development of tolerance, even to those foods to which a possible slight allergy originally existed. The breast feedings in the meantime maintain the baby's nutrition and protect the infant until age and increased strength and weight justify a gradual or complete discontinuance of the breast milk.

Intestinal Tuberculosis

To the Editor:—Can you give me any information regarding intestinal tuberculosis? Is it considered curable? Has its technic been worked out, or is it still in an experimental stage?

C. M., New York.

Answer.—Years ago, before the use of the x-ray as a diagnostic measure, intestinal tuberculosis was diagnosed only after the symptoms of far advanced disease—loss of appetite, abdominal cramps, and diarrhea—made themselves manifest. The condition was usually recognized as a complication of very far advanced pulmonary tuberculosis, and the prognosis [future outlook] was always grave.

Today, the picture is different. The rapid changing of a positive sputum into a negative one by means of artificial collapse methods and with the use of cod liver oil and tomato juice for all patients, intestinal tuberculosis is no longer a common complication. Furthermore the use of the x-ray as a means of finding early involvement of the gastrointestinal tract has added much to a favorable outlook.

If the condition is recognized before widespread ulceration has occurred and if the pulmonary tuberculosis is under control, intestinal tuberculosis is definitely curable.

Treatment consists of early recognition, prevention of reinfection by swallowed sputum, control of pulmonary tuberculosis and proper dietary regimen.

Childbirth for Small Women

To the Editor:—Does a small woman (weight 90 pounds) usually have an abnormal pelvis? If so, is it dangerous for her to consider childbirth?

E. L., New York.

Answer.—A small woman providing she is normally developed, except for stature, does not necessarily have an abnormal pelvis, in which case it is not dangerous for her to consider childbirth. In fact, even if the pelvis is abnormal, it still is not dangerous, because there are other ways of delivering the child safely in expert hands than through the birth canal. Such a case should, of course, have some one well qualified to take care of obstetric complications. The only way of determining whether or not an individual has a normal or abnormal pelvis would be to have a premarital or preconceptional examination and see whether or not pelvic development is normal. This would enable the competent obstetrician to evaluate conditions properly and give sane and proper advice relative to future childbearing.

Heredity in Diabetes

To the Editor:—Is diabetes hereditary when Mother is diabetic and not hereditary when Father is diabetic and Mother is nondiabetic?

H. C., California.

Answer.—So far, evidence shows clearly that the susceptibility to diabetes is inherited just as much from the father's side as from the mother's side. It is important to realize that if it is true that only one parent has diabetes and the other parent does not have diabetes, nor does any diabetes exist in his family, then the chances of the children getting diabetes are rather slight.

Bowlegs

To the Editor:—There is a popular belief current that bowlegs in later life are due to walking too early as an infant. Is this true?

J. R., Pennsylvania.

Answer.—Authorities seem generally agreed that bowlegs in the absence of existing evidence of rickets should not be attributed to early standing or walking. The slight presence of bowlegs normal to the infant gradually disappears with growth. If at the age of standing and walking the baby is clothed with thick and bulky diapers, it is possible that the normal straightening of the legs may be retarded or the bowing may even be made temporarily more marked, a condition spontaneously corrected after removal of the cause.

Persistent bowlegs in adult life could be the result of rickets in early life; but in such cases these persons have always had bowlegs. There are many causes for bowlegs in adult life. The principal ones are: Paget's disease in which there is softening and thickening of the bones and von Recklinghausen's disease, in which little multiple cystic cavities form all through the bones and cause bowing. The latter disease is due to disturbance of the parathyroid gland. Bowlegs may occur as a result of osteomalacia [softening of the bones], and in late life bowlegs may be due to arthritis of the knee joint in which the cartilage on the inner side of the joint is destroyed, allowing the leg bones to come together on the inner side and thus make them bow toward the outer side. The most common cause of bowlegs in adults, however, is the disease known as Paget's disease.

Fluoroscopy of the Uterus

To the Editor:—I have read with interest your comments on "Fluoroscopy of the Fallopian Tubes" [page 458] and would like to know if it is possible to detect a misplacement or an obstruction of the uterus by this method.

R. A. A., New York.

Answer.—Fluoroscopy of the pelvic organs following the injection into the uterus of a liquid opaque to the x-rays may be used as a means of detecting either misplacements or obstructions within the uterus, but the method is impractical and not used much except in extremely rare cases. Obstructions in the uterine canal are more clearly demonstrated on the x-ray film after injection of the uterus with an opaque medium. If the obstruction is in the cervical region, exploration and dilatation of the canal with appropriate instruments, preferably under anesthesia, is the method of choice. Misplacements of the uterus are commonly, and quite accurately, recognized by physical examination of the patient by the trained physician.

Nearsightedness

To the Editor:—I have recently heard of a hormone treatment for progressive myopia, or nearsightedness, and am much interested in learning whether there is a scientific basis for such treatment and any clinical evidence of its success. Also, how much danger is there of blindness in a person with progressive myopia?

O. C. O., Illinois.

Answer.—There has been some rather superficial experimental work on a purely clinical basis in the endeavor to control the progress of myopia by hormones, by gland extracts and other secretions. It is not a recognized treatment and has not been accepted by clinicians of experience.

Until we know more about the cause of progressive myopia and more about the character of the ocular tissues, which undergo stretching, we are shooting blindly in the dark in the endeavor to control that condition medicinally. The time may come when internal administration of some organic or inorganic compound will prevent the stretching of the eyeball; but that time has not yet arrived.

The danger of blindness in progressive myopia depends on the degree of the nearsightedness and the rapidity with which it advances. As a rule, the greatest advance occurs before the age of 30, and the subsequent increase is apt to be limited. The more rapid the progress and the higher the degree of myopia, the greater is the danger of myopic changes in the eye which lead to more or less impairment of vision. It cannot be estimated in percentages how great is the danger of loss of sight for progressive myopics as a class; each case is a law unto itself.

During the past twenty years, there have been an increasing number of cases of progressive myopia treated by removal of the crystalline lens in the eye. Although the operation bears a certain element of danger, when it is successful it appears to arrest the progress of myopia; but not every case is suited for such surgery, and the results are not uniformly successful.

Sleeplessness and Nerve Cells

To the Editor:—Is it physically possible for the brain cells of a 32 year old person to be restored to normal after a period of five months' sleeplessness when the ability to sleep is restored?

W. V., Oklahoma.

Answer.—The mere fact of sleeplessness, even for long periods, does not cause damage to nerve cells. However, there are diseases of the brain which damage nerve cells and at the same time cause sleeplessness. It is also possible, with the subsidence of the disease, for normal sleep to return even though the nerve cells that have been damaged do not recover.

Arthritis

To the Editor:—What proportion of doctors believes that strong amounts of vitamin D are effective in arthritis?

Does "trigger finger" ever disappear permanently? Will you explain its action?

H. B., Ohio.

Answer.—The experience of most workers devoted to arthritis and rheumatic diseases has shown that large dosage of vitamin D as a specific measure in the treatment of arthritis is not yet justified. They believe that the use of vitamin D, as well as other vitamins, plays a role in the presence of partial avitaminosis [disease due to vitamin deficiency], but this does not yet mean approval of massive dosage. The matter needs further study.

The term "trigger finger" is not a scientific one, not necessarily having a single meaning. It usually refers to a condition arising from an inflammation of the tendon of the bones of the hands, by virtue of which the tendon slips with difficulty through its sheath but with a sufficient pull will slip abruptly with a jerk in either direction. The nervous system bears no recognized relationship to this condition.

Preservation of Laboratory Specimens

To the Editor:—My hobby is clearing and staining of young mammals, embryos and small vertebrate animals. I use particularly the Schulze method. Is this the best procedure?

E. N., New York.

Answer.—"Clearing" refers especially to rendering transparent the tissue elements, and de-alcoholization refers to the removal of alcohol previous to imbedding in paraffin. Frequently the same reagent is used for either purpose, and the term "clearing" has come to be used in either sense.

The most useful clearer is xylol. Precautions must be taken to dehydrate the preparation thoroughly, or the final mount will be milky. Cedarwood oil is an excellent clearer, but it is slower than xylol in its action. It is safe, however, because tissues may be left in it indefinitely.

Xylol will clear whole embryos in twelve hours. But keep tissues in xylol for the minimum time, that is, only as long as is necessary to remove the alcohol, because it makes the objects brittle.

The remedy for insufficient dehydration is to repeat the dehydration with absolute alcohol, and clear once more. Clearing may be hastened by agitating gently from time to time and by slightly warming (40 C.).

It is suggested for the Schulze-Stöhr method that you clear with the following fluid:

Carbolic acid (melted) or creosote	50 cc.
Oil of thyme or cedarwood	50 cc.
Bergamot oil	25 cc.

If you are not successful, the use of cinnamic aldehyde or oil of bergamot may give satisfactory results, depending on how delicate your cytologic work must be. Experimentation will reveal for any tissue the clearing medium which will produce the least shrinkage.

If you have a question relating to health, write to "Questions and Answers," HYGEIA, enclosing a three-cent stamp. Questions are submitted to recognized authorities in the several branches of medicine. Diagnoses in individual cases are not attempted nor is treatment prescribed. Anonymous letters are ignored.

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MODERN DENTISTRY IS PAINLESS

(Continued from page 788)

the head-rest of the chair in which the patient is placed. This has merit although the results might be questionable should a hidebound political partisan be forced to listen to a speech by a member of the opposition. Several dentists have suggested moving pictures on the ceiling, and one practitioner I know gives his nervous patients a hand mirror and allows them to become interested in the operation.

In the case of small children, diversion will accomplish much, pampering little. A dentist once had as a patient a little girl of 7, who had not been easy to handle on previous visits and with whose mother he had a fairly stiff battle before she agreed to stay out of the operating room. With the mother at last out of the way and not trying to "help," the child and the dentist got along beautifully.

The main switch controlling the current for the motor of the drill was within reach of this little patient, and he pointed to it and said, "Now, Mary, you just keep your finger on this button, and if you get scared, just press on it, and everything will stop at once." The result was that he managed to complete more work during that visit than ever before, and the child did not so much as whimper and left the chair wreathed in smiles.

This is not a new idea, for a number of dentists have special switches which the uneasy patients may operate to shut off the current. Sometimes in their eagerness to calm child patients, dentists go to extremes. I have seen one dental assistant stand in front of the chair and, at the direction of her boss, distract children by making funny faces. To the question, "Will it hurt?" another dentist produces a dictionary and asks his young patient to find the word "hurt." The child never finds it, for the dentist has removed the page on which the word appears.

Patients in an upset frame of mind are nearly always difficult to manage. So one of the jobs that devolve on the dentist today is that of soothing his worried visitors. Once a nervous man came into a dentist's office, and it was plain to see that the man was upset about something, possibly business troubles. At first, the dentist felt that what bothered this man was no concern of his. But as he began working on the tooth, the patient squirmed and writhed and complained that he was being hurt.

The dentist knew that this could not be true, for he had definitely anesthetized the tooth and the area surrounding it. Therefore, it was not the drill that upset him, but some trouble that was storming in his brain. So he stopped work and asked him what the trouble was. The patient proved voluble, apparently glad to be able to unburden himself. It seemed that he had just received a letter which informed him that a close relative of his, living in Europe, had been arrested and placed in a concentration camp. When he had finished his story, he seemed much calmed and was a model patient for the remainder of the session. Dentists must know more than their profession; they need to be good listeners and consolers, when the occasion arises.

It is important that the dentist make a favorable impression on suspicious patients. Are his manners pleasant, his demeanor calm? Or has he just spent fifteen or twenty fruitless minutes waiting for a patient who is late for an appointment? If the dentist should be in a ruffled state of mind, as he may be under those circumstances, you may be sure that it will be quickly reflected in the patient. The patient will then magnify every discomfort and exaggerate all sensations. The best anesthetic most skilfully applied will not relieve imagined pain.

Dentistry has come a long way in the last century, and it can now proudly claim that physical pain has been banished from many of its operations. But imagined pains have yet to be vanquished. It is largely up to the layman to decide whether he is willing to forego the false notion that a visit to a dentist inevitably entails pain. The neglect which is the result of needless fear may have disastrous consequences, causing not only discomfort but serious illness as well. To some, fear of the dentist may be a source of humor; but to most, it is a tragedy which burdens life. It would be gratifying to see contemporary humorists leave the dental office to its efficient work and prospect elsewhere for joke material.

HOW TO MANAGE THE ADOLESCENT

(Continued from page 778)

The parents felt bad about this and insisted that he keep on, since he had started. They felt that if he gave up it indicated a lack of character. It was unwise of the parents to have bought such an elaborate outfit for the boy before they had determined whether he really was interested in photography. The adolescent must have an interest in a great many things which he wishes to explore, and then if perchance he finds these things no longer of interest, he must be able to drop them and go on to something else.

This fickleness, this changeableness, is to be expected in the adolescent. It does not indicate a lack of character.

This is the period in which religious feelings are normally developed. Ideals instilled through religious training are of great importance in guiding the adolescent. But as Dr. Norman Peale of the Marble Collegiate Church has said, "The religious training of the adolescent cannot be a cut and dried affair. It must be adapted to the emotional and spiritual needs of the individual."

I knew an interesting group of boys who smoked "on the sly," and drank tea and coffee at the family tables. After a famous prize fight, this group decided to emulate the career of the victor. They quit smoking, quit drinking tea and coffee and took exercise regularly. They formed a boxing club, and the crowd really became well developed physically, because of this ideal which they had chosen.

The point is that no amount of arguing, no amount of persuasion, no amount of urging from any of their teachers or parents would have sufficed to make these boys give up smoking or drinking tea and coffee; but when they had accepted an ideal that required this abstinence, they readily gave up these habits.

What can the parents do, then, for this strange, aloof, anxious, worried adolescent? They must understand him and sympathize with him and finally not worry about him too much. If the parents have given their children a normal home life up to the adolescent period and then could see that they have suitable physical and emotional outlets, they can be sure that everything will work out all right.

It must be remembered that physical and mental maturity will often cause a disappearance of the symptoms which the parents object to. And not only will sympathy and understanding of the parents help the child to go through this difficult adolescent period, but the child will come back to the parent with renewed faith and renewed affection.

EQUINE ENCEPHALOMYELITIS

Equine encephalomyelitis is a virus disease from horses which is similar to the so-called "sleeping sickness." Increased evidence of its menace to man is contained in the report of the death of a laboratory worker from the Western strain of the disease, recently announced in *The Journal* of the American Medical Association by L. D. Fothergill, M.D., Margaret Holden, Ph.D., and R. W. G. Wyckoff, Ph.D., Pearl River, N. Y.

For some time after the discovery of the virus of the disease in 1930, research was carried on with the virus on the assumption that the strains, Eastern and Western, were not communicable to man from horses. However, in 1937 six human cases were reported among farmers in a community where the Western strain was prevalent, with two of the patients dying. A year ago at least forty cases appeared in New England during an epidemic of the Eastern strain of the disease.

Little is known yet of the method of contracting the disease, as in some of the reported cases the victims have not been discovered to have had any contact with sick horses at the time of the onset of the disease.

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will fail
because of poor eyesight

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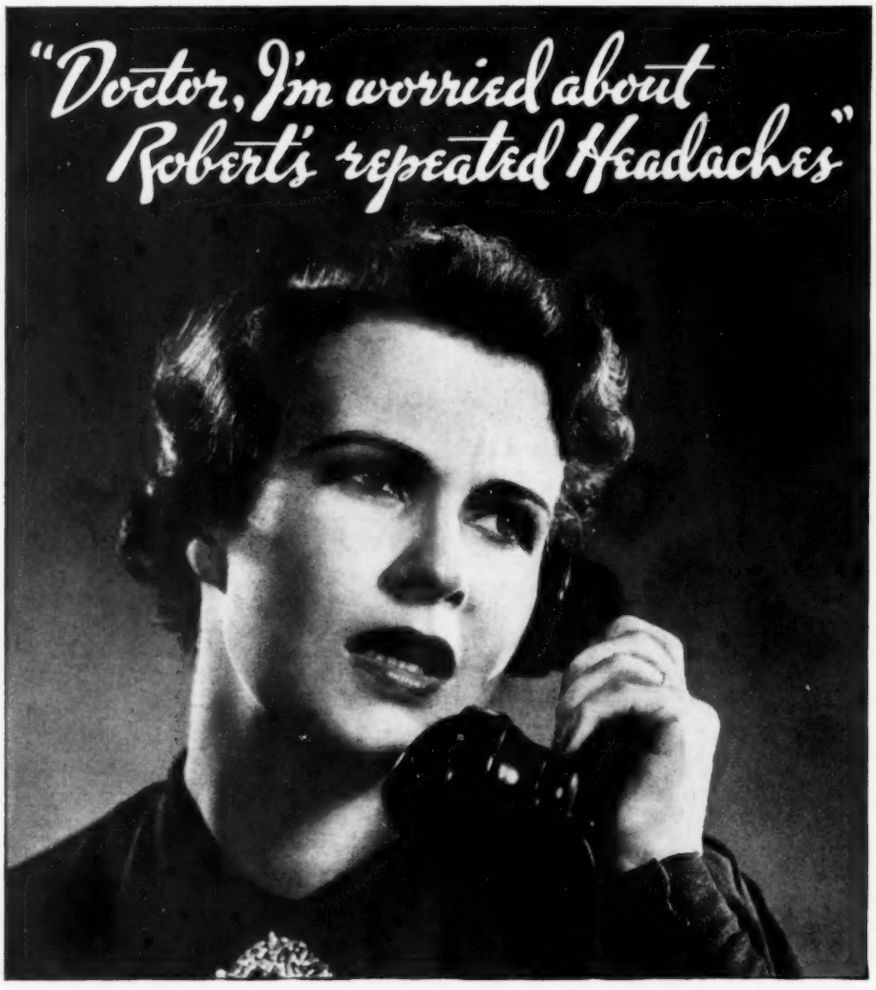

Anyone who suffers from severe or recurrent headaches should not be content to relieve the pain with a temporary remedy. Such headaches may be a danger signal that indicates trouble elsewhere in the body.

Eyestrain ranks high among the causes of headaches, particularly if you are in the habit of doing close work, reading under inadequate artificial light, or taking part in other activities that place an unusual strain on the eyes. Even slight defects of vision may cause severe headaches. Such conditions call for the advice of an eye specialist. They may be corrected by suitable glasses, properly fitted.

Local conditions, such as sinusitis, infected tonsils or teeth, or obstructed nasal breathing, sometimes account for habitual or persistent headaches. But often the actual source of the trouble turns out to be far removed from the head. Toxic headaches may be caused by poisons produced in the body as a result of infection or the failure of internal organs to function properly.

When the cause of chronic headaches is not readily discovered, a more careful search should be made by your physician. He may find that an organ has been damaged by a minor but neglected infection and, as a result, the blood pressure may be rising. Or occasionally, through X-ray or other procedures, the physician may discover an even more serious condition in time to restore the patient's health.

Of course, it is not necessary to consult a doctor for every headache. Many people suffer occasional headaches from such ordinary causes as a delayed meal, a stuffy room, too much smoking or "nervous fatigue." These are usually corrected by simple remedies such as a lukewarm bath, an ice pack on the head or back of the neck, and with rest and quiet.

But when headaches are frequent or severe or unusual in character, it would be wise to see your physician.

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FROM DARKNESS TO LIGHT

(Continued from page 804)

without the slightest discomfort of any sort. As the bleeding continued, she was persuaded by a relative to have a urologic examination. The systoscope revealed a soft tumor of the bladder about the size of a hickory nut. It was the kind of a tumor that if neglected always terminates in cancer. With the aid of the cystoscope, radon seeds were planted in and around the growth. It was destroyed completely and never returned.

Ruth was a little girl 2 years old when trouble first made its appearance. She began to have vomiting spells that lasted two or three days at a time; they would come on every four to six weeks. With these attacks she had fever and pain and passed coffee colored urine. The trouble continued for two years. She was finally placed under the care of a urologist. Examination revealed the fact that her trouble came from the right kidney, where there was an obstruction. It became plain that an operation on this kidney would have to be performed. It was found during the operation that the kidney was badly infected and hopelessly destroyed. After its removal, the child made a perfect recovery and in six weeks was well.

MATERNAL DEATH RATE DECREASING

In refutation of what he believes to be unjustly severe criticism of the American practice of obstetrics, Scott C. Runnels, M.D., Cleveland, in a paper in *The Journal* of the American Medical Association, reports a sharp decrease in the maternal death rate in the United States between 1929 and 1939. During this period the maternal death rate per thousand live births dropped from 7.0 to 4.89. Much of this decrease is attributed by Dr. Runnels to the increased use of hospitals for maternity cases and widespread improvement in hospital management of obstetric cases.

"As the births of the United States increasingly occur in well organized hospitals and come increasingly under the supervision of trained obstetricians, maternal mortality and morbidity rates will continue to improve," Dr. Runnels predicts.

BOOKS ON HEALTH

Methods and Materials for Teaching Biological Sciences

By David F. Miller and Glenn W. Blaydes. Price, $3.50. Pp. 435. McGraw-Hill Book Company, Inc., New York, 1938.

This appears to be an excellent textbook for teachers and those in training to be teachers of biology. To serve the avowed dual purpose the authors have divided the book into two main parts. Part one is that addressed principally to the trainee but is also of value to the teacher in service. This part is a textbook in special methods and covers those questions most commonly asked by the student teachers on problems of teaching biology.

Part two is of primary importance to the teacher in service. This part is also necessary to the teacher in training and will be constantly used as a reference during the entire training course. There are listed useful experiments and demonstrations which the teacher can employ as a help in constructing a course that is best adapted to local needs.

The suggestions of inexpensive materials as well as substitute materials to be made by members of the class should be welcome by all teachers, since budgets for biology courses are frequently inadequate. The problems given at the end of each chapter are excellent and should do much to accomplish the aim of the authors to train the student to apply the information he has learned to his daily life. The illustrations used in the book are adequate and do much to make the book readable.

PAUL A. TESCHNER, M.D.

You're the Doctor

By Victor Heiser, M.D. Cloth. Price, $2.50. Pp. 300. New York: W. W. Norton & Company, Inc., 1939.

Heeding the practical advice given by Dr. Heiser in this book will help make the average reader a healthier individual. However, as might be expected from the author of "An American Doctor's Odyssey," the book is replete with anecdotes gained from the forty years which he has spent in health work in foreign lands, chiefly in the Orient. Food and diet have been given most attention in the book. He believes that American eating habits could stand a lot of correction and makes not only a plausible but a most interesting case for his ideas of how and what to eat. He says that if he could he would reverse the order of our meals, with dinner at breakfast time when we are most rested and the stomach can best digest a lot of food, a reasonably generous lunch and some zwieback or toast and a glass of milk for the end of the day. A nap after eating is a practical thing, he declares, then goes on to cite the experiment with two dogs, fed simultaneously and then one allowed to sleep while the other taken out on a hunting trip, after which they were killed and their stomachs examined. The food in the stomach of the one who had slept was all digested, while that in the stomach of the other was an undigested lump.

Other phases of personal health, as well as public health, are not neglected by Dr. Heiser. His discussion of exercise, the abuses of the heart and the benefits and need of relaxation, are presented with the same zest and common sense as are his ideas on foods. Forty years of living in strange lands, with friends in high and low positions, have given him not only a treasure house of experiences and memories but also a broad, tolerant understanding of the foibles of the human race and the ability to share these attributes with his readers. From the first chapter, "Physician, Heal Thyself," to "A Merry Heart Doeth Good Like a Medicine," which concludes the book, the fine,

"Have you any gas with Vitamin A in it?"

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cheerful philosophy of Dr. Heiser bids the reader to "adjust oneself in harmony to the present environment instead of to hark back uselessly."

The book is no substitute for a physician, as many books on health, by inference, hold themselves to be. When temperature or pain signal that something is wrong, Dr. Heiser says it is time to call on the services of those trained to deal with them and then goes on to tell why expert treatment is needed. Even if the reader does not follow all of the advice given by the author, he will be a healthier individual after reading the book because he will have been entertained and amused, which is one of the prescriptions Dr. Heiser gives for healthful living. An index makes it useful as a reference volume.

LAWRENCE C. SALTER.

The Handicap of Deafness

By Irene R. Ewing, M.S., and Alex W. G. Ewing, Ph.D. Cloth. Price, $4.40. Pp. 327. New York: Longmans-Green and Company, 1938.

This timely book is an outstanding contribution to our knowledge of a neglected problem involving medical, educational and psychologic aspects. The two English authors, because of their extensive research and wide clinical and teaching experience among the aurally handicapped are especially well qualified to write with authority on this subject.

Without going too deeply into technicalities for the average reader, they present their material in a manner at once practical and stimulating. Included among the subjects covered are the latest advances in the detection and assessment of hearing deficiencies; their relation to mental development and the acquisition and retention of normal articulate speech; the utilization of residual hearing through supplementing it by modern hearing aids and speech reading (erroneously called lip reading); the advantages, limitations and methods of prescribing and selecting hearing devices. The writers point out the increasingly wider range of application of these improved instruments for educational purposes, teaching speech and speech correction.

Special chapters are devoted to total deafness from infancy and early childhood, intelligence and educational attainment of the deaf and to the many related problems. One appendix covers vocational training for the deaf; a second describes a short intelligibility test for estimating (a) the relative ability of aurally handicapped persons to hear and recognize the vowel and consonant sounds; (b) the extent to which a patient is helped by a particular hearing device, and (c) the efficiency of an aid when used by the same patient under different conditions.

This book affords valuable information for educators, otologists, general medical practitioners, parents and all persons who need to be familiar with the basic facts related to the special problems of the thousands of unfortunates who are afflicted with a potential or existing hearing handicap.

HORACE NEWHART, M.D.

"All those in favor say 'A-a-ah'!"

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It's More Fun to Be Thin

By Jean Z. Owen. Price, $2. Pp. 182. Boston: Marshall Jones Company, 1939.

This is another one of the many books being written nowadays with the idea of instructing women regarding their reduction of weight while at the same time amusing them and teasing them. In many ways it is well done and commendable. The author begins well by warning women against the use of freak diets and against attempts to take off weight too fast without the guidance of a physician. She shows women how foolish they are when they try to "kid" themselves into believing they are not really fat.

One of the features of this book that will appeal to a woman will be the chapter in which the author shows how the mother of a family who is reducing can prepare meals which will not be too fattening for her and not too reducing for the family. Many a woman is discouraged from making efforts at reduction because of the difficulties of catering at the same time to her needs and to those of hungry and growing children and perhaps a husband with a good appetite.

One bit of excellent advice that the author gives to women is not to mention the fact that they are on a diet. Certainly all relatives and bridge partners will agree that this is good advice. One interesting and true comment is that many women stop dieting because it puts them in such a bad temper.

WALTER C. ALVAREZ, M.D.

Soybeans for the Table

By Elizabeth Fuller Whiteman and Ellen Kingsley Keyt. Leaflet No. 166. Paper. Price, 5 cents. Pp. 6. Washington, D. C.: U. S. Department of Agriculture, 1938.

Soybeans, first grown in the United States as a forage crop, are fast coming into use in this country as a table food. Both the fresh and dry beans may be used as a vegetable, and from the dry beans also may be prepared a number of edible products including flour, "milk," curd, salad and cooking oils and many others. Soybeans are richer in protein and fat and lower in utilizable carbohydrate than the more commonly used varieties of table beans. They are also relatively inexpensive and have long served as an important protein food in certain sections of the Orient. Some soybean preparations are of recognized value in special

diets, particularly of persons allergic to cow's milk. Unfortunately soybeans and soybean preparations are frequently promoted by means of exaggerated and misleading claims by food faddists and self styled "dietitians."

This brief, unbiased pamphlet prepared by members of the staff of the Foods and Nutrition Division of the U. S. Bureau of Home Economics is timely and should prove useful. The leaflet contains a brief statement of the food value of fresh green and dried soybeans, with directions for preparing both forms of this vegetable for the table. The leaflet also contains directions for preparation of soybean milk, soybean curd and soybean sprouts, together with recipes for the use of soybean flour. RUTH C. CLOUSE.

Your Chest Should Be Flat

By S. A. Weisman, M.D. Cloth. Price, $2. Pp. 145. Philadelphia: J. B. Lippincott Company, 1938.

In this book Dr. Weisman records special chest measurements on more than 20,000 school children, several hundred university students and several hundred persons with definitely diagnosed tuberculosis. It is always much worth while to establish norms through such measurements in order that deviations caused by disease and poor development may be easily detected. From the measurements presented he concludes that the average healthy chest is relatively flat and wide, while the average tuberculosis chest is deep and narrow, although it may appear flat on casual observation.

J. A. MYERS, M.D.

Your Health Dramatized

By W. W. Bauer, M.D., and Leslie Edgley. Price, $2.25. Pp. 528. New York: E. P. Dutton and Co., Inc.

Those engaged in health education must use various technics; newest of these is radio. This requires ability to present material for the ear, and little is available. The authors have succeeded admirably in presenting selected radio scripts on various topics of health. Thirty-two subjects are chosen under attractive titles. For instance, instead of presenting information about growth under that particular classification, they list "Growing for Strength and Beauty." "Seeing and Hearing Well" is a far more attractive title than would be "Eyes and Ears." "Playing for Fun" will hold the attention not only of the student but of the adult as well. They tell quickly, briefly and dramatically the subjects of various broadcasts.

Aside from the titles, the dramatized sketches are exceptionally well done. They are not intended to replace all other health education but are to enrich and enlarge such courses. Teaching health is not always an easy task. To present facts about disease and facts on the best way to enjoy life can be done admirably by the use of drama.

The scripts in this volume were adapted from those originally broadcast by the American Medical Association and the National Broadcasting Company in the "Your Health" series. The Institute for Radio Education, at is ninth annual session at Ohio State University in 1938, gave their program a First Award in the health classification, after hearing transcripts of typical programs from the 1937-38 series.

This is a volume that the teacher of health will not only welcome, but will consider a "must" book for her teaching armamentarium.

P. A. T.

Physical Education in the Elementary Grades

By Strong Hinman. Cloth. Price, $2. Pp. 523. New York: Prentice-Hall, Inc., 1939.

No better book than this on the practical aspects of conducting physical activities for children has come to the attention of the reviewer. Although it indicates briefly and clearly the proper interrelation between the health supervision and physical education departments, most of the space is given to a practical and helpful discussion of story plays, rhythmic activities, folk dances, group games of low organization and other activities. This discussion assumes that much of the teaching will have to be done by nonspecialists, and the instructions are detailed and clear.

If music is needed for the game or dance, an appropriate record is indicated. The occasional psychologic suggestions are sound and useful. Some self testing "stunts" are included and the entire work provides an excellent program for the elementary school, grade by grade, with variety and interest duly stressed.

It is a valuable book for any person who needs to handle groups of children in games of physical activities. DUDLEY B. REED, M.D.

The Biography of the Unborn

By Margaret Shea Gilbert. Price, $1.75. Pp. 129. Illustrated. Baltimore: The Williams & Wilkins Company, 1938.

Life does not begin at 40. It starts at the time of conception, and for nine months previous to birth life constitutes one of the most remarkable periods of development in the world. Mrs. Gilbert presents this fascinating story admirably. Many facts of embryology hitherto inaccessible to the lay reader are presented simply and effectively. One does not wonder that the author won the award offered by this publisher for the best contribution on a science subject calculated to interest the general reader. Every teacher of physiology and biology will welcome this scholarly and brilliantly written book. J. MACE ANDRESS, PH.D.

Do Adolescents Need Parents?

By Katherine Whiteside Taylor. Price, $2.50. Pp. 380. New York: D. Appleton-Century Company, 1938.

In this rapidly changing world both parents and youth are confused. They are muddling through in many cases with technics which belong to "the horse and buggy days." What philosophy and psychology do parents need so that they may rear their children to run their own lives efficiently? This is the problem which the author considers in this readable and helpful book. This volume is one of a number of books to be published by the Commission on Human Relations of the Progressive Association.

J. M. A.

Mental Health Through Education

By W. Carson Ryan. Price, $1.50. Pp. 315. New York: The Commonwealth Fund, 1938

This is a book to read and a book to own. "In many schools today," says Dr. Ryan, "one finds an atmosphere of friendliness and happy activity. Much of the traditional formality, the forced silence, the tension, the marching is gone." Yet he finds that in many important respects there is a wide chasm between mental health and what actually goes on in the schools. Children are regimented by seating, grading, conventional methods of discipline, marking systems and other devices which make it impossible for children to make the best growth in personality. The book is critical but also fair and constructive. J. M. A.

Health pamphlets

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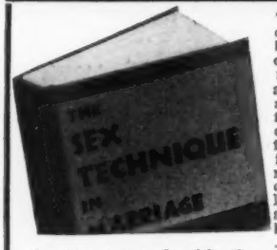

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The Barnes Dollar Sports Library

FOOTBALL. By W. Glenn Killinger. Cloth. Price, $1. Pp. 141.
BASKETBALL. By Charles C. Murphy. Cloth. Price, $1. Pp. 94.
TRACK AND FIELD. By Ray M. Conger. Cloth. Price, $1. Pp. 94.
BASEBALL. By Daniel E. Jessee. Cloth. Price, $1. Pp. 92.
FUNDAMENTAL HANDBALL. By Bernath E. Phillips. Cloth. Price, $1. Pp. 124. New York: A. S. Barnes & Co., 1939.

The need for authoritative, well illustrated books for boys on the various major sports is well met by this series of contributions. All the authors are persons who have had practical experience in the sports concerned. All of the fundamentals of play are fully described, and there are also hints of the greatest usefulness. The volumes make no pretense to cover anything more than complete practical advice, except that the introductions help to integrate the sports into our scheme of education. A plan for the future will cover some of the lesser sports.

MORRIS FISHBEIN, M.D.

Our Magic Growth

By Olive Woolley Burt. Cloth. Price, $2. Pp. 138. Illustrated. Caldwell, Ida.: The Caxton Printers, Ltd., 1937.

Out of the realm of the microscope, Mrs. Burt has fashioned tales to entertain little children—tales revolving around Amoeba Ann, Perry Paramecium, Vera Vorticella and others as intriguing. While they are fanciful enough to interest children of an early age, they are based on fact, not on fairy stories. They should furnish a good foundation for later training that need not be unlearned, as is the case with so many of the childhood stories that adults tell.

SIBYL WINSER JOHNSTON.

New Directions in Physical Education for the Adolescent Girl in High School and College

By Rosalind Cassidy. Cloth. Price, $2.50. Pp. 231. New York: A. S. Barnes & Co., 1938.

This is a study in the bases and methods of replanning the curriculum for the adolescent girl in high school and college. The book is intended for teachers and major students in physical education.

The first part of the book is a study of the American adolescent girl and of the forces exerted on her by the complexity of present day society. It deals also with her education for democracy, and with the tools of physical education. There is an interesting case study appended, written by a member of Committee on the Study of Adolescents of the Progressive Education Association's Commission on Secondary School Curriculum.

The second part of the book scrutinizes the present day program and deals with methods of cooperative planning of a program after formulation of a philosophy of and goals for education.

The book will not appeal to the layman but should prove of value to teachers interested in "pupil-centered" education and in its application in health and physical education.

LILLIAN KLEIN.

Swimming Pool Standards

By Frederick W. Luehring, Ph.D. Cloth. Price, $5. Pp. 273. New York: A. S. Barnes & Co., 1939.

The increasing use of swimming pools, particularly in schools and more recently in country clubs, has brought the demand for "Swimming Pool Standards." To satisfy these demands, this book has been accurately prepared and well written. It is technical in its description, probably too technical, and one must be an engineer to understand some of its parts.

It will serve as a definite reference guide and should be on the shelf of every public school, university and country club where swimming is an important part of the athletic "set-up."

The completeness of the detail emphasizes the author's meticulous care in presenting this timely contribution.

SIDNEY PORTIS, M.D.

NOTICE

Books reviewed in this section should be ordered from booksellers or direct from the publishers. They may not be secured through HYGEIA or the American Medical Association, unless published by this organization. The following list contains the addresses where the publishers may be reached:

McGraw-Hill Book Company, 330 W. 42nd St., New York City.
W. W. Norton & Co., 70 Fifth Ave., New York City.
Longmans-Green & Co., 114 Fifth Ave., New York City.
Marshall-Jones Company, 212 Summer St., Boston.
J. B. Lippincott Company, 227 S. 6th St., Philadelphia.
Prentice-Hall, Inc., 70 Fifth Ave., New York City.
Williams & Wilkins Company, Mount Royal and Guilford Aves., Baltimore.
D. Appleton-Century Company, Inc., 744 Hewes Ave., Brooklyn, N. Y.
Commonwealth Fund, Division of Publications, 41 E. 57th St., New York City.
A. S. Barnes & Co., 67 W. 44th St., New York City.

A Compilation of Books on Health

By a cooperative effort between the American Library Association and the American Medical Association a list of authentic books in the field of health has been prepared and classified according to many special topics. This list is to be published in three issues of *Hygeia*, and the first installment appears below. When the publication is completed, the complete list as well as separate leaflets for some of the special subjects will be made available in pamphlet form.

THE NEW BABY

ALDRICH, CHARLES A., and ALDRICH, MARY M. *Babies are human beings; an interpretation of growth.* Price, $1.75. The Macmillan Company, 1938.

A description of the natural development of young children, for parents, physicians, teachers and psychologists.

AMERICAN MEDICAL ASSOCIATION. *A child is to be born.* Price, 10 cents. Published by American Medical Association, 1938.

A booklet for the expectant mother. Treats of prenatal symptoms, general care of the expectant mother, including her exercise, bathing, diet, teeth and clothing, and planning the infant's layette.

DE NORMANDIE, ROBERT L. *The expectant mother and her baby.* (National health series) Second Rev. Ed. Price, 35 cents. Funk and Wagnalls Company, 1937.

GALDSTON, IAGO. *Maternal deaths — the ways to prevention.* Price, 75 cents. Commonwealth Fund, 41 E. 57th St., New York City, 1937.

A stimulating book which shows the need for cooperation to reduce maternal mortality and gives suggestions for organizations, physicians and the general public.

GUTTMACHER, ALAN F. *Into this universe; the story of human birth.* Price, $2.75. Viking Press, Inc., 1937.

A book for the layman which gives the physiology of pregnancy and childbirth and an account of medical practice in relation to both as it is today and as it has advanced through the ages.

HEATON, CLAUDE E. *Modern motherhood.* Rev. Ed. Price, $2. Farrar & Rinehart, Inc., 1938

Detailed and technical enough to inform the lay reader as to what constitutes adequate maternity care and to allow the expectant mother to cooperate intelligently with doctors and nurses.

IRVING, FREDERICK C. *Expectant mother's handbook.* Price, $1.75. Houghton Mifflin Company, 1932.

Handbook of obstetrics for the mother. It presupposes no knowledge at all, except intelligence and a general interest in obstetrics and allied matters.

LOWENBURG, HARRY. *Care of infants and children; with an introduction by Morris Fishbein.* Price, $3. McGraw-Hill Book Company, 1938.

A pediatrician gives detailed, practical directions to mothers and nurses for carrying out the physician's orders or for following prescribed routines for the baby or child. Food formulas, methods of feeding, of food preparation, of bathing, of hygiene, of prevention of contagious diseases and of caring for the sick child are included.

LUDOVICI, ANTHONY M. *The truth about childbirth; lay light on maternal morbidity and mortality.* Price, $2.50. E. P. Dutton & Co., 1938.

A discussion of childbirth which attacks modern conditions in civilized countries which have created a "flight from motherhood" among women to whom the author believes childbirth should be a consciously pleasant experience, instead of a difficult and painful function.

MATERNITY CENTER ASSOCIATION, New York. *Maternity handbook; for pregnant mothers and expectant fathers; text prepared by Anne A. Stevens.* Price, $1. G. P. Putnam's Sons, 1932.

An unusually practical, clearly written book giving elementary advice to prospective mothers and fathers. It discusses the hygiene of pregnancy, the balanced diet, clothing for mother and baby, hospital and home deliveries and the early care and training of the baby.

SLEMONS, JOSIAH M. *The prospective mother; a handbook for women during pregnancy.* Third Rev. Ed. Price, $2. D. Appleton-Century Company, Inc., 1934.

Written for women who have no special knowledge of medicine; it aims to answer the questions which occur to them in the course of pregnancy.

U. S. DEPT. OF LABOR, CHILDREN'S BUREAU. *Appraisal of the newborn infant.* (Bur. pub. 242.) Price, 10 cents. Government printing office, 1938.

Care of the infant through his first month of life.

U. S. DEPT. OF LABOR, CHILDREN'S BUREAU. *Infant care.* Rev. Ed. Price, 10 cents. Government printing office, 1929.

The baby's development, health, care and home surroundings.

U. S. DEPT. OF LABOR, CHILDREN'S BUREAU. *Prenatal care.* Price, 10 cents. Government printing office, 1930.

A thoroughly reliable book available to any expectant mother.

VAN BLARCOM, CAROLYN C. *Getting ready to be a mother.* Third Ed. Price, $2. The Macmillan Company, 1937.

The best manual on prenatal care and hygiene for the educated woman.

VICTOR, DAVID. *Father's doing nicely; the expectant father's handbook.* Price, $1.50. Bobbs-Merrill Company, 1938.

Emphasizes the essential acts in the drama of childbirth in a humorous but sound common sense manner. Advice for the young man who is approaching confinement.

WASHBURN, MRS. HELEN. *So you're going to have a baby!* Revised and enlarged. Price, $1.50. Harcourt, Brace and Company, 1937.

Advice and information for the prospective mother. The author is wholly modern in her viewpoint and scientifically up to date in her recommendations.

WOODS, LINDA M. *Your new baby; how to prepare for it and care for it.* Price, $2. Robert M. McBride & Co., 1935.

An elementary but common sense presentation that is well indexed and very usable.

FEEDING THE CHILD

ALDRICH, CHARLES A. *Cultivating the child's appetite.* Second Ed. Price, $1.50. The Macmillan Company, 1932.

Outlines the causes of faulty eating habits and suggests practical methods for overcoming them. Covers an important subject in a most unusual way. It is simple, straightforward and to the point.

BARNES, MRS. MARY F. *Feeding the child from two to six.* Price, $2.50. The Macmillan Company, 1928

An experienced dietitian tells how and what to feed the child from 2 to 6 years of age and gives practical balanced menus for each month in the year.

BARTLETT, FREDERIC H. *Infants and children; their feeding and growth.* Rev. Ed. Price, $1.50. Farrar & Rinehart, Inc., 1937.

An excellent manual covering the whole range of feeding and training.

BELL, ALBERT J. *Feeding, diet and the general care of children; a book for mothers and trained nurses.* Third Ed. Price, $2. G. P. Putnam's Sons, 1936.

The application of diet to the prevention of disease in children. Has sample diets for ages 1 to 12. Conveniently arranged. Specific information.

BOURJAILLY, BARBARA W., and GORMAN, DOROTHY M. *The mother's cook book.* Price, $1.25. D. Appleton-Century Company, Inc., 1926.

Designed expressly for the mother of children of 2 to 6 years. It is invaluable as a guide in the preparation of tempting dishes for the child who is old enough to have likes and dislikes in the matter of food.

GESELL, ARNOLD L., and ILG, FRANCES L. *Feeding behavior of infants; a pediatric approach to the mental hygiene of early life.* Price, $4.50. J. B. Lippincott Company, 1937.

Using motion picture study and daily tests of an infant, the authors carefully

investigated growth in coordination and emergence of intelligent social behavior. Of value to all students of infancy.

GILDERSLEEVE, ELENA. *Baby epicure: a practical book on the preparation of health-building foods for children and invalids.* Price, $1.75. E. P. Dutton & Co., 1937.

A practical book that will be a boon to parents, nurses, dietitians, directors of nursery schools and all who are concerned with the preparation of food for young children or delicate adults. Recipes have been thoroughly tested. Index is keyed to permit a quick selection of recipes suitable for the very young child, for children 2 to 5 years or for the entire family.

HOLT, LUTHER E. *The care and feeding of children.* Fifteenth Ed. Price, $1.25. D. Appleton-Century Company, Inc., 1934.

Contains good information on vitamins, digestive disturbances and their care, clothing, the effect of sunlight and gives advice about diet for older children.

LOWENBERG, MIRIAM E. *Food for the young child.* Price, $1.50. Collegiate Press, Inc., 1934.

Suggestions on planning and preparing meals for children. There are daily menus for a year and 150 recipes for foods specified in the menus.

RICHARDSON, FRANK H. *Feeding our children.* Price, $1. Thomas Y. Crowell Company, 1937.

Simple explanation of the principles of nutrition and their application to planning meals for various ages.

ROBERTS, LYDIA J. *Nutrition work with children.* Rev. and Enl. Ed. Price, $4. University of Chicago. (University Home Economics Series.)

The first half of the book deals with the nature, causes and effects of malnutrition and its prevention and treatment. The second half is devoted to nutrition work in schools and with the preschool child. It is intended as a textbook and reference for college students, but it will be useful to all who are working to improve the health of children.

SWEENY, MARY E., and BUCK, DOROTHY C. *How to feed children in the home.* To mothers gratis. Published by Merrill-Palmer School, Detroit, 1937.

KEEPING THE CHILD WELL

AMERICAN MEDICAL ASSOCIATION. *Keeping your baby well.* Price, 10 cents. Published by American Medical Association, 1934.

General advice on infant care and feeding.

DWYER, HUGH L. *Your child in health and in sickness.* Price $2.75. Alfred A. Knopf, Inc., 1936.

This book attempts to guide the mother to a correct understanding of present-day practice in the prevention of disease in childhood. A comprehensive and clearly written guidebook for parents.

FISCHER, LOUIS. *The baby and growing child.* Price, $1.50. Funk & Wagnalls Company, 1936.

This complete manual on child care is an invaluable adjunct to every household; a guide to parents in the care of their children in sickness and in health.

GARLAND, JOSEPH. *The youngest of the family.* Price, $2. Harvard University Press, 1932.

Elementary advice for inexperienced parents, covering the feeding and training of babies and very young children and their care in health and during minor diseases. Well written, practical and readable.

GOODSPEED, HELEN C., and JOHNSON, EMMA. *Care and training of children.* Price, $1.80. J. B. Lippincott Company, 1929.

Having had experience in public schools the authors have been able to write a textbook which will be admirable for either junior or senior high school classes. Both physical and mental training are covered, with emphasis on the former.

HURLOCK, ELIZABETH B. *Modern ways with babies; physical and mental development.* Price, $2.50. J. B. Lippincott Company, 1937.

Clearly presented information on the care and hygiene of children from birth to the age of 3 or 4. The language is nontechnical but based on scientific information.

KENYON, MRS. JOSEPHINE. *Healthy babies are happy babies.* Second Ed. Price, $1.50. Little, Brown & Co., 1938.

An up-to-date book on the care, feeding and physical and mental training of children up to the age of 3.

KUGELMASS, ISAAC N. *Growing superior children.* Price, $3.50. D. Appleton-Century Company, Inc., 1935.

The aim of this book is to apply "the doctrine of individuality" in aiding the growth and development of children. The author, a pediatrician, has combined a consecutive study of childhood from birth through adolescence with a practical manual on the care and hygiene of children.

MORSE, JOHN L.; WYMAN, EDWIN T., and HILL, LEWIS, W. *The infant and young child.* Second Ed. Price, $2. W. B. Saunders Company, 1929.

Three physicians who are also professors or instructors of pediatrics in the Harvard University Medical School have prepared this manual for mothers on the care and feeding of children from birth to the age of 6.

NUSBAUM, H. D., and others. *Our baby's first seven years.* Price, $2.50. Buzza Company, 1928.

A compilation of all sorts of scientific charts, which when carefully filled out by the mother will be a distinct service to the grown child and adult.

OVERTON, MARVIN C. *Your baby and child; a book for mothers.* Price, $2. Your Baby and Child Publishing Company, 1936.

Intended primarily for the mother as a guide in the general care of her infant or child. It is in no sense a medical book but a lucid and concise exposition of developmental phenomena and common ailments.

PALMER, MRS. RACHEL, and ALPHER, ISADORE M. *40,000,000 guinea pig children.* Price $2. Vanguard Press, Inc., 1937.

Exposé of fraudulent claims and harmful effects of leading commercial products intended for children.

SAUER, LOUIS W. *The nursery guide.* Price, $2. C. V. Mosby Company, 1933.

A *vade mecum* on infant and child care.

SHAW, HENRY L. K. *The healthy child.* (National health series.) Price, 35 cents. Funk & Wagnalls Company, 1937.

SHERBORN, MRS. FLORENCE. *The child; its origin, development and care.* Price, $3.50. McGraw-Hill Book Company, 1934.

Scientific study of the prenatal period and childhood through the fifth year.

U. S. DEPT. OF LABOR, CHILDREN'S BUREAU. *The child from one to six; his care and training.* Price, 10 cents. Government printing office, 1931.

An attractive handbook for the mother of the young child. There are discussions of the child's food, sleep, diseases, daily care, play, habits and sex education.

WILKES, EDWARD T. *Baby's daily exercise.* Price, $1. D. Appleton-Century Company, Inc., 1927.

A set of simple exercises, well illustrated, by the use of which a mother's play with her child may be made intelligent and purposeful and help to develop the baby all around physically.

CHILDREN'S DISEASES

BAUER, WILLIAM W. *Contagious diseases.* Price, $2. Alfred A. Knopf, Inc., 1934.

Designed to inform mothers concerning the nature of communicable diseases and to enable them to interpret the doctor's directions, both as to quarantine regulations and the care of the sick.

DE KRUIF, PAUL. *Why keep them alive?* Price $3. Harcourt, Brace & Co., Inc., 1936.

Pleads for the wider use of scientific knowledge to fight disease and suffering, especially among children.

DENNETT, ROGER H., and WILKES, EDWARD T. *Mothers' guide when sickness comes.* Price, $2.50. Doubleday, Doran & Co., Inc., 1934.

A helpful, practical book to aid the mother in cooperating with the physician. This book, by two well known specialists in disease of children, is written in a pleasing style which is easily understandable.

FISCHEL, MARGUERITE K. *The spastic child.* Price, $1.50. C. V. Mosby Company, 1934.

MYERS, J. A. *Protecting the child from tuberculosis.* Price, 5 cents. American Medical Association, 1935.

ROGERS, GLADYS G., and THOMAS, L. C. *New pathways for children with cerebral palsy.* Price, $2.50. The Macmillan Company, 1935.

The story of the efforts that are being made to bring a normal life to paralyzed children. The methods advocated should be in the possession of parents or others who have to do with children in this group.

CHILD TRAINING AND STUDY

ANDERSON, HAROLD H. *Children in the family.* Price, $2. D. Appleton-Century Company, Inc., 1937.

Practical interpretations of problems that arise with young children particularly, although the ideas are applicable to older children as well. Easy style makes enjoyable reading.

ARLITT, ADA H. *The adolescent.* Price, $2. McGraw-Hill Book Company, 1938.
Advice to parents of children from 12 to 21 years of age, simply and informally given. Tells briefly why adolescents behave as they do and how to help them build for character and emotional maturity.

BACMEISTER, MRS. RHODA W. *Caring for the run-about child; with photographs by Tom Maley.* Price, $2.50. E. P. Dutton & Co., Inc., 1937.
"Constructive guidance for the active, explorative two-to-six-year-old" — subtitle. Includes the psychologic principles and the methods of approach that the author as a nursery school teacher has found helpful. Appendixes list desirable clothes, toys, books, songs and phonograph records. Simple, informal style, attractive format. Practical material.

BLATZ, WILLIAM E., and BOTT, HELEN. *Management of young children.* Price, $3. William Morrow & Co., Inc., 1930.
Positive methods of discipline. A handbook for parents and study groups.

BURT, CYRIL L. *The backward child.* Price, $5. D. Appleton-Century Company, Inc., 1937.
Comprehensive and authoritative book for teachers or others interested in the slightly subnormal child but not mentally deficient; discusses causes and amelioration of conditions.

CHILD STUDY ASSOCIATION OF AMERICA. *Parents' questions.* Price, $2. Harper & Brothers, 1936.
Questions about child training are discussed and arranged according to subject and form a practical treatment of the subject.

DIMOCK, HEDLEY S. *Rediscovering the adolescent; a study of personality development in adolescent boys.* Price, $2.75. Association Press, National Council of Y.M.C.A., 1937.
Study of 200 normal boys by means of tests, physical examinations, interviews and case studies. Results upset generally accepted ideas.

FAEGRE, MARION L., and ANDERSON, JOHN E. *Child care and training.* Fourth Ed. Price, $2.50. University of Minnesota Press, 1937.
An authoritative and nontechnical book for parents, giving them information about the development and care of the normal child.

FORMAN, HENRY J. *Our movie made children.* Price, $2.50. The Macmillan Company, 1933.
Between 1929 and 1933, twelve independent investigations were made of the influence of movies on the information, emotional experiences, health and patterns of children's conduct. The summary of these studies, here presented, constitutes a grave indictment of a "critical and complicated situation," the solution of which should be of vital interest to every thinking adult.

GALLAGHER, ELEANOR G. *The adopted child.* Price, $2.50. Reynal & Hitchcock, Inc., 1936.
A comprehensive guide for any one who has adopted a child or is planning an adoption. Also a handbook for social workers, adoption agencies, doctors and all others interested in child welfare.

GARLAND, JOSEPH. *The road to adolescence.* Price, $2.50. Harvard University Press, 1934.
The author turns his attention to the years from 5 to 15. The book is intended for parents and attempts to treat the child as "an indivisible unit of mind and body," avoiding the specialized treatment of either the mental or the physical aspects, usual in such books.

GESELL, ARNOLD. *The guidance of mental growth in infant and child.* Price, $2.50. The Macmillan Company, 1931.
An account for the professional and general reader of principles in child guidance from the standpoint of developmental research, especially as it has been evolved in the pioneer work of the Yale Psycho-clinic.

KAWIN, ETHEL. *The wise choice of toys.* Second Ed. Price, $1.50. University of Chicago Press, 1938.
A study of the part played by toys in the physical, mental and psychologic development of children. The text is simple and would be helpful to parents who have more than the average amount of money to spend. Also interesting and stimulating to teachers.

MYERS, GARRY C., and SUMNER, CLARENCE W. *Books and babies.* Price, $1.75. A. C. McClurg & Co., 1938.
About the important part that books play in the life of the young child. Information on all types of books, and a description of the role of the public library. The work of the Mothers' Room in the Youngstown, Ohio, Public Library is fully described.

PRUETTE, LORINE. *The parent and the happy child.* Price, $2. Henry Holt & Co., Inc., 1932.
The author, who has had long experience in child psychology, divides her book into three parts: Part one deals with the psychology of family life; part two treats of the psychology of child development; part three suggests a course of study for parents and a plan by which they may examine themselves as to merits and demerits of parenthood.

RICHARDS, ESTHER L. *Behaviour aspects of child conduct.* Price, $2.50. The Macmillan Company, 1933.
This book is a series of lectures on the adjustment of the child to home, school and environment given in a nontechnical style.

SALTZMAN, ELEANOR. *Learning to be good parents; talks to fathers and mothers.* Price, 25 cents. Manthorne & Burack, Inc., 1937.

THOM, DOUGLAS A. *Everyday problems of the everyday child.* Price, $2.50. D. Appleton-Century Company, Inc., 1927.
Discussion of the mental life of children as it affects their physical and social well-being.

U. S. DEPT. OF LABOR, CHILDREN'S BUREAU. *Are you training your child to be happy?* (Pub. 202) Price, 10 cents. Government printing office, 1938.
Practical guide for the young mother.

MEDICAL ADVICE FOR THE HOME

AIKENS, CHARLOTTE A. *The home nurses' handbook of practical nursing.* Fifth Ed. Price, $2. W. B. Saunders Company, 1932.
A textbook for use in nursing classes and an excellent manual for home use.

BAUER, WILLIAM W. *Health questions answered.* Price, $2. Bobbs-Merrill Company, 1937.
Over 1,500 health questions, selected from more than 10,000 letters addressed to the American Medical Association, are answered for the layman. The author is director of the Bureau of Health Education of the American Medical Association.

DAKIN, FLORENCE. *Simplified nursing.* Third Ed. Price, $3. J. B. Lippincott Company, 1931.
Instructions, easy and technically correct which will prove of value to the home nurse who has had no regular training in nursing.

DELANO, JANE A. *American Red Cross textbook on home hygiene and care of the sick.* Fourth Ed. Price, $1.40. P. Blakiston's Son & Co., 1933.
A simple manual for the average household.

FISHBEIN, MORRIS, Editor. *Modern home medical advisor; your health and how to preserve it.* Price, $2.49. Doubleday, Doran & Co., Inc., 1937.
Comprehensive, popular, authoritative information on diseases, first aid, diet and posture.

OLSON, LYLA M. *Improvised equipment in the home care of the sick.* Second Ed. Price, $1.25. W. B. Saunders Company, 1933.
A fine contribution to nursing education, especially public health nurses since their field of work is the home.

WHEELER, MRS. MARY W. *Amateur nurse; a practical book of home nursing.* Price, $1. Bobbs-Merrill Company, 1933.
Intended for the use of any one on whom falls the necessity of taking care, without nursing experience, of the ill, the aged or young children. The information is detailed, exact and informally phrased.

YOUR HEALTH AND ITS CARE

BAUER, WILLIAM W. *Health, hygiene and hooey.* Price, $2.50. Bobbs-Merrill Company, 1938.
"This book is offered in the hope of elucidating practical fundamental principles underlying the health of the individual who has neither time nor inclination to make extensive technical studies, and of building up the skepticism of the reader toward information offered him about his health."

CADES, HAZEL R. *Handsome is as handsome does; how to make your daughter better looking.* Price, $1.50. D. Appleton-Century Company, Inc., 1938.
Discusses health and good looks.

CANNON, WALTER B. *The Wisdom of the body.* Price, $3.50. W. W. Norton & Co., Inc., 1932.
This great physiologist explains how by regulating body temperature, blood pressure, salt content of the blood, sugar reserve and other factors, the human body preserves the stability of homeostasis that constitutes health.

CAPRIO, FRANK S., and GRANT, OWSLEY. *Why grow old? a guidebook for the man who seeks to remain physically and mentally young.* Price, $1. Garden City Publishing Company, Inc., 1939.
Written exclusively for men, giving practical advice on how to remain young.

CLENDENING, LOGAN. *Human body.* Enl. and Rev. Ed. Price, $3.75. Alfred A. Knopf, Inc., 1937.
"Told in a vigorous style, with plenty of human interest protruding, personal hygiene is presented in an attractive manner. Some of it is the unsupported opinion of the author, but most of it is authentic and all of it is interesting."

DE KRUIF, PAUL H. *The fight for life.* Price, $3. Harcourt, Brace & Co., Inc., 1938.
New discoveries that have been made recently to cure or prevent disease, the struggles of doctors and scientists to perfect these discoveries and the many problems that remain unsolved are related in a graphic style for the layman.

DIEHL, HAROLD S. *Healthful living.* Price, $2.50. McGraw-Hill Book Company, 1935.
An excellent book covering the whole subject of health. A chapter on colds is especially recommended, and there is sane treatment of such timely subjects as diet, the use of stimulants, sunlight and fresh air.

DIETZ, DAVID. *Medical magic.* Price, $3.50. Dodd, Mead & Co., Inc., 1937.
The fascinating story of how medical science today is penetrating the secret of the human body and applying this new knowledge to the conquest of disease.

EPHRAIM, JEROME W. *Take care of yourself; a practical guide to health and beauty, stressing the proper way to use and the prudent way to buy home remedies and cosmetics.* Price, $2. Simon & Schuster, Inc., 1937.
A handbook on health, explaining how to care for minor ills, preserve good looks and how to buy the right products for these uses.

ETHEREDGE, MAUDE L. *Health facts for college students; a textbook of individual and community health.* Second Ed. Price, $2. W. B. Saunders Company, 1937.
The subject of individual and community health is comprehensively — possibly too comprehensively — covered. For the presentation of health facts to college students, this book can be well recommended.

HAGGARD, HOWARD W. *Man and his body.* Price, $4. Harper & Brothers, 1938.
An up-to-date and practical discussion for the layman on physiology and hygiene, modern medicine and the causes and processes of disease.

HARVEY, B. C. H. *Simple lessons in human anatomy.* Price, $2. American Medical Association, 1931.
As we read the book we catch much of the author's own enthusiasm and wonderment at the "marvelous craftsmanship of nature."

LAIRD, D. A., and MULLER, C. G. *Sleep; why we need it and how to get it.* Price, $2.50. The John Day Company, Inc., 1930.
Some of the questions asked and answered are: Why should work make us tired? How much sleep do we need? What happens to us while we sleep? An unusually well written book stimulating not only interest in sleep but in healthful living.

LANE, JANET. *Your carriage, madame!* Price, $1.75. John Wiley & Sons, Inc., 1934.
The author advises how to walk, sit and work so that a natural good posture will result. Informally and entertainingly written and illustrated with helpful drawings and photographs.

LEWIS, FRANCIS P. *What everyone should know about eyes.* (National health series.) Price, 35 cents. Funk & Wagnalls Company, 1937.

Mc LAUGHLIN, ALLEN J., and TOBEY, JAMES A. *Personal hygiene.* (National health series.) Price, 30 cents. Funk & Wagnalls Company, 1937.

MINER, LEROY. *Why the teeth.* (National health series.) Price, 35 cents. Funk & Wagnalls Company, 1937.

NOVAK, EMIL. *The woman asks the doctor.* Price, $1.50. Williams & Wilkins Company, 1935.
A discussion of the various physical factors particularly important to women by a specialist in gynecology. The treatment is clear, sane and constructive. Excellent illustrations. No index but clear chapter headings. An eminently satisfactory text.

PALMER, MRS. RACHEL L., and GREENBERG, MRS. SARAH K. *Facts and frauds in woman's hygiene; a medical guide against misleading claims and dangerous products.* Price, $1. Garden City Publishing Company, Inc., 1938.
A discussion of widely advertised, fraudulent articles sold under the guise of "feminine hygiene" and of the true facts relating to that subject.

PHILLIPS, MARY C. *Skin deep; the truth about beauty aids — safe and harmful.* Price, $2. Vanguard Press, Inc., 1937; price, $1. Garden City Publishing Company, Inc., 1937.
Sets forth the truth about beauty aids, safe and harmful, stating facts which were brought to light by the investigations of the Consumers Research, Inc. Companion volume to Kallet and Schlink's "100,000,000 Guinea Pigs."

PITKIN, WALTER B. *More power to you.* Price $1.75. Simon & Schuster, Inc., 1933.
Designated as a working technic for making the most of human energy. The author explains simply and directly how the average individual can increase his capacity for doing work.

PUSEY, WILLIAM A. *The care of the skin and hair.* Rev. Ed. Price, $1.50. D. Appleton-Century Company, Inc., 1934.
Reliable, popular guide on the functions and care of the skin and hair. Sound, common-sense advice, clearly and briefly presented.

RICE, THURMAN B. *The human body.* (National health series.) Price, 35 cents. Funk & Wagnalls Company, 1937.

SOLOMON, CHARLES. *Traffic in health.* Price, $2.75. Navarre Society, Ltd., 1937.
In the belief that a truly informed public will have no use for harmful nostrums and harmful cosmetics, the author, a physician, gives the facts about a large number of "patent medicine" and cosmetic rackets.

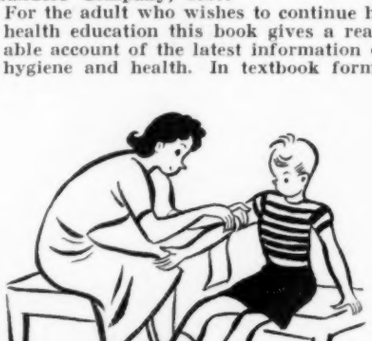
TOBEY, JAMES A. *Common health.* (National health series.) Price, 35 cents. Funk & Wagnalls Company, 1937.

U. S. PUBLIC HEALTH SERIES. *Personal hygiene.* (Pub. health rep. supp. 137.) Price, 10 cents. Government printing office, 1938.
A brief handbook on a subject on which simple treatment is hard to obtain.

VALENTINE, HELEN, and THOMPSON, ALICE. *Better than beauty; a guide to charm.* Price, 50 cents. Modern Age Books, 1938.
Common-sense advice to women on how to be attractive and charming.

VAN BUSKERK, EDGAR F. *Principles of healthful living.* Price, $3. The Dial Press, 1938.
Clear, concise, readable guide to the cultivation of habits which will assure the average layman of a healthful existence.

WILLIAMS, JESSE F. *Personal hygiene applied.* Sixth Ed. Rev. Price, $2.50. W. B. Saunders Company, 1937.
For the adult who wishes to continue his health education this book gives a readable account of the latest information on hygiene and health. In textbook form.



FIRST AID

AMERICAN NATIONAL RED CROSS. *American Red Cross first aid textbook.* Rev. Ed. Price, $1. P. Blakiston's Son & Co., 1937.
Written by medical experts, this booklet possesses a readily comprehended style, designed for the average reader not versed in medical terminology.

AMERICAN NATIONAL RED CROSS. *Textbook of life saving and water safety.* Price, 60 cents. P. Blakiston's Son & Co., 1937.
A book for the swimmer and director of water sports, showing the ways to secure personal safety in the water.

COBB, WALTER F. *Everyday first aid.* Price, $1.50. D. Appleton-Century Company, Inc., 1937.
The best methods of first aid procedure are outlined for the layman, with an analysis of the situation in each case, subsequent history, comment and illustrations of what to do in each emergency.

COLE, N. B., and ERNST, C. H. *First aid for boys.* Rev. Ed. Price, $1.50. D. Appleton-Century Company, Inc., 1931.
Presents different kinds of first aid for burns, poisoning, drowning, etc. This material is particularly valuable for the young teacher who is not as familiar with the practical application of first aid principles as she would like to be. This book is also suitable for a textbook for intermediate and grammar grades.

ELIASON, ELDRIDGE L. *First aid in emergencies.* Eighth Ed. Rev. Price, $1.75. J. B. Lippincott Company, 1935.
Compact handbook for laymen, Boy Scouts, explorers, factory workers, etc., on treating the ordinary emergencies until the physician arrives.

ELIASON, ELDRIDGE L. *Practical bandaging.* Fourth Ed. Rev. Price, $1.75. J. B. Lippincott Company, 1930.

GARTNER, PAUL W. *First aid afield.* Price, $1.50. The Macmillan Company, 1934.
Practical advice on first aid in the wilds and self preservation in the water and life saving. Useful for sportsmen and campers.

U. S. CIVILIAN CONSERVATION CORPS. *Safety for tree workers.* Free. Supt. of Documents, 1937.
A safety and first aid help.

U. S. DEPT. OF COMMERCE. *National Bureau of Standards; Bureau of Safety for the household.* Price, 15 cents. Supt. of documents, 1932.
Discusses risks in the home and precautions to be taken to prevent accidents and also public measures that would provide greater safety.

U. S. DEPT. OF LABOR. *Consumers' Project. Home medicine cabinet.* Price, 5 cents. Supt. of Documents, 1936.
Good advice on first aid kits for any family.

U. S. PUBLIC HEALTH SERVICE. *What to do in case of accident.* Price, 10 cents. Supt. of Documents, 1938.
A well indexed first aid handbook for libraries, factories, Boy and Girl Scout groups, etc.

ZWETSCH, JAMES C. *A handy guide to first aid; what to do in case of accident or sudden illness; foreword by Dan Beard.* Price, 10 cents. Albert Whitman & Co., 1937.

NOTICE

The books that are mentioned in this list may not be purchased through HYGEIA or the American Medical Association, unless it is specifically stated that the book is published by this organization. Otherwise, your local bookseller can secure the book for you. In case of pamphlets printed by the federal government, these may be secured by writing directly to the respective department or bureau in Washington, D. C. No further address is necessary for the government publications.

NERVOUS HABITS

WILLIAM I. FISHBEIN *tells parents what to do to cure their child's enuresis*

Great care in feeding the child just before bedtime should be exercised: Avoid overfeeding or giving anything that is hard to digest.

Harold M. Lambert

ENURESIS, or bedwetting, is not so much a bad habit as it is the persistence of an infantile habit, which ordinarily is relinquished when the child reaches 3 or 4 years of age. The time at which the habit is relinquished depends on the mother's or nurse's skill and perseverance. There may be lapses from good habits at certain times, even if the child has been perfectly trained.

Many different causes for enuresis have been suggested; but none of them seems to explain the difficulty completely. Certain schools of psychology place the condition in the category of a variety of masturbation. This is not, in general, an acceptable explanation. Still other psychologists have tended to consider it a manifestation of inferiority. Attempts have been made to find abnormal conditions to which the failing may be attributed. Yet, in the large majority of instances, no physical disturbances are detectable. It is true, nevertheless, that the habit tends to wax and wane with changes in the general health. The condition often becomes worse during infections; thus, any measures which tend to improve the general health may be valuable in controlling this habit.

Failure to control elimination during the day occurs particularly in children who are nervous, excitable or precocious. Many children manifesting this disturbance are found to have definite abnormalities. An intelligent understanding of the condition will help in the cure. Punishment and harshness are useless, and even sympathy may be overdone. Treatment in a hospital may often be necessary.

Bedwetting at night is much more common and occurs more frequently in children who are otherwise apparently normal. It, too, is particularly liable to arise in precocious, sensitive children with unstable nervous systems. Organic causes are rarely found for it.

One preventive measure of some value is the establishment of regular habits in regard to emptying the bladder. Those measures which tend to stabilize the nervous system, including correct feeding, regulation of the bowels, regular periods for rest and sleep and enough exercise, have their use, but all of them together cannot be relied on to prevent bedwetting.

The varieties of treatment for this disorder are legion, and this fact in itself indicates the lack of success which is obtained with most of them. It is important for the child to have comfortable sleeping conditions. The room should be well ventilated; the mattress should not be too soft, and overfeeding and the giving of indigestible foods avoided. Great excitement before bedtime, which adds to the irritation of the

nervous system, may cause a lapse. The restriction of fluids leads to concentration of the urine and thus to further irritation. Hence, as a rule, it does no good. Medicines, such as alkalies, may serve to lessen irritability. Calcium preparations have a sedative effect on the nervous system and so are of help. Recently, the use of ephedrine in large doses, taken under the direction of a physician, has been found helpful in some instances. The giving of large quantities of salt in the form of a salt sandwich at bedtime has aided some children.

None of these medicinal measures can be relied on to cure bedwetting in inveterate cases. They are by no means as effective as suggestion. The child must be encouraged to control the bladder function during the day. He should not be subjected to conversation concerning the habit, nor should anything, such as rubber sheets on the bed, be employed which might be suggestive of the act. A complete change of environment, which includes not only the place of living but also the persons around the child, is often of the greatest value.

Rather than to employ these means one by one, it is better to concentrate them on the objective simultaneously. Thus a complete change of surroundings should be made; suggestions should be given to the child that his cure is in sight; at the same time, his health regimen should be improved as much as possible, and such drugs administered as have been ordered by the physician.

With the passage of years and improvement in personality and character, enuresis almost always ceases. No matter what form of treatment is undertaken, it must include efforts to assist the child in gaining control and in improving and restoring his self confidence. Harshness and pessimism must be assiduously avoided.

QUESTIONS FROM MOTHERS

Uses of Powder and Oil for Babies

To the Editor:—I understand that mothers are no longer using powder on their babies to prevent chafing, but are now using oil. Can you tell me if this is a recognized procedure?

H. B., Illinois.

Answer.—Both powder and oil have a place in the prevention of chafing in infants. If the skin is inclined to be too dry, oil is helpful. If the skin tends to be moist, powder is often to be preferred. In the average baby, neither oil nor powder is necessary. Even when the skin is hypersensitive, scrupulous cleanliness, the use of light or loose clothing and leaving the clothing off a portion of the time in a well heated room may be more beneficial than any form of local application.

The consensus is that the condition of the skin and the season determines the choice of treatment. During the winter months when humidity is low, noticeably so in most apartments, and the skin is dry, oil prevents chafing and helps keep the skin soft. In hot weather with high humidity and particularly when skins tend to excessive oiliness, powder is the method of choice. It keeps the skin cool, lessens heat rash and frequently prevents those superficial skin infections that so often accompany chafing.

Swimming for Infants

To the Editor:—Is it harmful to take a 9 month old infant swimming in an indoor pool? My husband and I like to swim frequently and have taken our daughter several times. She seems to enjoy it thoroughly and to suffer no ill effects.

P. W., Illinois.

Answer.—Even though the baby seems to have suffered no ill effects from being taken swimming in an indoor pool, the practice is of doubtful wisdom. Babies are particularly susceptible to infections of the nose, throat and lungs, and even the best construction of swimming pools and the most careful technic of cleaning and disinfection of the water does not preclude the possibility that a bather with sinus disease, or other respiratory infection in a contagious stage, may be using the pool and may transmit a serious infection to the child.

It would seem wise to defer swimming and bathing at least until after the first birthday.

The infant body is readily chilled, and even if no infection is introduced into the baby's body from the water, it is possible that germs in the baby's own throat might be given an opportunity to do harm as a result of lowered resistance due to chilling.

This does not mean that the mother and father must refrain from swimming. Other arrangements can be made for taking care of the baby while they swim.

Baby Talk Readers
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These young mothers have learned through BABY TALK MAGAZINE that only the best is good enough for their babies. Read why hospital-type diaper service is indispensable to them.

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Mrs. Donald Shelchow
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"Since I have taken diaper service I have had new freedom and baby and I are both healthier. I owe it to my family to be as healthy and rested as possible."

Mrs. Theodore Brown
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"My husband proved to me that professional diaper service is actually costing us less money than the old fashioned home washing of diapers."

Mrs. W. Shoenborn
Long Island City, N.Y.

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Mrs. T. McAllister Cook
New York City

For information about diaper service in your city, write to BABY TALK MAGAZINE. This stimulating magazine brings you intimate news of the baby world each month. There is a hint in every issue that will save you hours of work and worry. There are free leaflets on expectancy, care of the young baby and toddler training problems. Twelve full issues for $1.50 a year.

Baby Talk
MAGAZINE
424 Madison Avenue, New York City

FRIENDLY BACTERIA

(Continued from page 794)

it is probable that life as we know it does not exist there, for without bacterial activity, such life is inconceivable.

To sum up, the great majority of bacteria serve a useful purpose, and there is no reason to consider them as a source of unmitigated danger, with the exception of a relatively small number of miscreants. Bacteria are constantly at work for the benefit of more highly developed creatures. The human race owes them not only comfort and food, but it owes them its very existence. Life, as we know it, would become extinct, if it were not for the activity of these microscopic friends, which are so small that it takes about 25,000 of them placed end to end to make the length of one inch. Knowledge of these activities is the best cure for bacteriaphobia.

Addenda

All the facts stated in this survey hold for the past and present existence of life on this earth. What development the future may bring is a matter of speculation. When the mechanism of immunity formation is understood, it may be possible to produce curative serums and immunizing vaccines artificially. Just as the ripening of cheeses and the formation of milk beverages are the results of chemical action produced by micro-organisms, so science may teach us how to produce such fermentation without the aid of living organisms. The practically unlimited nitrogen of the atmosphere may be converted into complex proteins, which will serve as food. The purification of polluted streams and of sewage may then become a solvable chemical problem.

Lately, man has found it possible to raise vegetables without the use of soil. In a similar way, the chemicals which are the source of food for plants may be recovered from fertilizers and thus used over and over again. Decomposition of the dead bodies of animals and dead vegetables, now a bacteriologic process, may at some future date be carried out by artificial means. Developments of this nature would render the work of micro-organisms superfluous. At present, however, it is hard to conceive of the production of fruits, such as berries, apples, nuts, without the aid of soil and micro-organisms.

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Sinusitis

Since sinusitis often presents symptoms suggestive of tuberculosis, accurate diagnosis of sinus infection early in life is extremely important, L. D. Chipman and R. J. Collins, St. John, N. B., advise in the Canadian Medical Association *Journal*.

For many years, these authors say, the staff at the St. John Clinic for Tuberculosis encountered a group of patients found on examination to be suffering from a nontuberculous infection, usually associated with sinusitis. These patients had such symptoms as fatigue (often intensive and out of proportion to their physical appearance), some loss of weight, a throaty cough, loss of appetite, headache and a persistent low grade fever. There was a history of frequent colds in the head that seemed to merge into one another over a period of three or four months, with cough and sputum persisting throughout this period.

During the period from 1931 to 1938, 597 nontuberculous patients were selected as presenting symptoms indicative of sinusitis. Their nasal passages were examined, and when x-rays of the paranasal sinuses were made, 352 showed definite evidence of sinusitis.

Oxygen Treatment Cost Reduced

Oxygen treatment often may mean the saving of the lives of persons suffering from pneumonia, shock following injury or operation. Heretofore the high cost of oxygen treatment has acted as a detriment to its general use early in the course of an illness, the time when it is most effective. To administer oxygen by tent costs the patient from $12 to $25 a day without allowance for the special nursing which is usually a necessity.

Walter M. Boothby, M.D., W. Randolph Lovelace II, M.D., and Charles W. Mayo, M.D., all of Rochester, Minn., in *The Journal* of the American Medical Association, report that through the use of a new inhalation apparatus recently perfected at the Mayo Clinic, oxygen treatment now is available at a moderate cost, even in the home. The new inhalation apparatus reduces the cost of oxygen treatment to from $5 to $8 a day.

Tularemia from Tree Squirrel

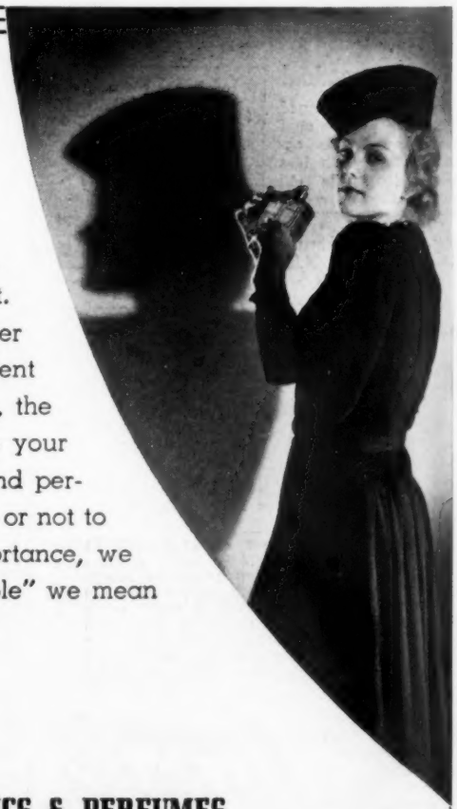
A case of tularemia of the glands of the eye, probably the first reported instance in which the disease was contracted from the tree squirrel, is presented by Melvin Oosting, M.D., Dayton, Ohio, in the *Ohio State Medical Journal*.

Most often contracted from rabbits, tularemia involves a fever of several weeks' duration, accompanied by much malaise and depression. The lymph glands draining the area involved become inflamed and swollen, and frequently discharge pus. When the disease afflicts the glands of the eyes, the patient usually complains of chills and fever associated with headache and backache and often with nausea. The eyelids feel thick and may stick together due to a seromucoid discharge that is almost always present.

Of the recorded cases of this type of tularemia, the majority have been traced to rabbits and others to the crushing of ticks or flies or to groundhogs. The patient Dr. Oosting describes had washed and prepared squirrels for cooking, and the infecting material was probably carried to the eye by the fingers.

Looking Back

★



What with bustles and dancing back to back, this autumn promises to be interestingly different. The world of fashion is looking back, and whether through a proud and full bustle or just an impudent hint of a bustle, such as our model is wearing, the chances are that your new fall clothes will call attention to your back. All of which has a great deal to do with cosmetics and perfumes because they are an integral part of fashion. To bustle or not to bustle may be your immediate problem; but of equal importance, we submit, is the selection of suitable cosmetics—and by "suitable" we mean cosmetics which create a charmingly natural-looking effect.

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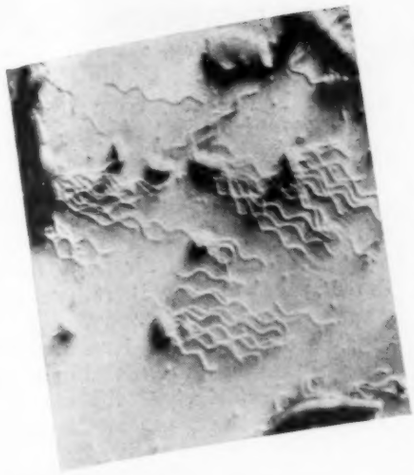

Acme

Harold M. Lambert

Acme

MEDICINE in the NEWS

"Medicine in the News" is the new title and topic of the American Medical Association-National Broadcasting Company health education program for 1939-40.

With an entirely new program from an entirely new angle the American Medical Association and the National Broadcasting Company return to the air October 19 at 4: 30 p. m. Eastern standard time. The program will be broadcast each Thursday thereafter over the Blue network of the National Broadcasting Company.

These radio programs will be dramatized as heretofore, with music and sound effects. They will be broadcast from scripts written by professional script writers of the National Broadcasting Company based on information appearing currently in medical publications, principally *The Journal* of the American Medical Association. The programs will be based on important recent developments in medicine, often on articles appearing for the first time in the medical literature concurrently with the broadcasting of the program. They will be based on topics of seasonal timeliness as well as on the immediate events occurring in medical research and clinical medicine.

These programs will be useful as well as entertaining to listeners of all ages, all occupations and all walks of life. They will contain fresh medical information significant to the people's health and useful to business men, craftsmen, artisans, laborers, professional persons, housewives, women in business, college students, high school students, teachers, public health workers—in fact, they will contain material from week to week which will be helpful to any listener.

This will be the fifth series of dramatized network programs, and as in the case of previous series, it will be broadcast from the Chicago studios of the National Broadcasting Company and will draw on all the extensive and highly expert script, production, musical, dramatic and accessory facilities used in the production of the many popular radio features emanating from this source.

As in the past series, the time and a portion of the production facilities are furnished by the National Broadcasting Company, while the basic information and production costs are contributed by the American Medical Association.

A prominent new feature of the program will be the "Health Question of the Week," which will be asked one week and answered the next. Listeners are invited to send questions to be asked and answered on the air. No such questions will be returned, nor can we undertake to correspond concerning them. Questions relating to diagnosis or treatment, or involving opinions about individual patients whom we have never seen nor examined, will be ignored, as will all anonymous communications.

Programs will be announced from two to four weeks in advance. The announcement will appear in HYGEIA each month, beginning in October and in *The Journal* of the American Medical Association each week beginning October 7. The program will be supervised by the Bureau of Health Education of the American Medical Association.

The new radio series will be based on important recent developments in medicine, as well as on topics of seasonal timeliness.

First day of school

DON'T LET IT BE A DAY WHEN

SCHOOLROOM SLOUCH

BEGINS

Urge your schools to provide posturally correct school seats

YOU won't find *Schoolroom Slouch* listed in the medical dictionary. Yet it is a threat to the health and welfare of school children that should not be overlooked.

Obsolete, ill-fitting seats and desks, that should have gone out with the unsanitary tin drinking dipper, are the chief causes of *Schoolroom Slouch*.

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WHEN PREVENTION FAILS

(Continued from page 815)

strips of cloth but should be only tight enough to keep from slipping.

Head injuries: Keep the head slightly raised, and avoid moving the patient more than is necessary. Hemorrhage in the brain will cause pressure with resultant paralysis.

Burns: Shutting air away from the burned area will relieve the pain. Petrolatum or soda paste may be used. Strong tea or warm tea-leaf poultices are useful and are usually available. If the skin is broken, however, use sterile technic. Do not use any oily substances on large burns or areas of broken skins. Tannic acid jelly is now a standard part of the first aid kit.

Wounds: Control bleeding, but do not try to clean out the wound or use antiseptics unless no doctor can be found. Cover with a sterile dressing or clean handkerchief.

Poisoning: The sooner the poison is removed from the stomach, the less absorption there will be. Large quantities of liquid and a finger down the patient's throat will force regurgitation. Rewashing the stomach several times is desirable.

Sprains, strains, dislocations: Treat as possible fractures; that is, elevate, if the injury is to a leg or an arm, and immobilize. A dislocated finger may be slipped into place by a steady, outward pull until the joint is in alinement again.

Nose bleed: Apply pressure with your finger at the angle of the nose on the bleeding side. If this does not control the bleeding, call the doctor. Keep the patient quiet for at least half an hour after bleeding has stopped.

These then are the simple, common-sense rules of first aid. A general knowledge of them on the part of the adult population would guarantee the injured person's welfare in that critical period between the accident and the doctor's arrival.

SMOKING DURING PREGNANCY

Smoking does not have any good effects on the mother during pregnancy; however, clinical experience would indicate that a moderate use of tobacco is not harmful to the mother or to the baby, according to *The Journal* of the American Medical Association. When a woman smokes excessively it is suggested that she decrease her smoking.

DEMOCRACY in HEALTH EDUCATION

By J. MACE ANDRESS

"DEMOCRACY is in danger. It must and shall be preserved." This is the cry that is going up throughout the length and breadth of our land. Too long we have taken our democracy for granted, like the telephone, radio and automobile. They have been with us so long that we seldom stop to realize their value. It is only when the car is laid up for a time in the garage that we truly appreciate its value. Similarly, we have been so free to speak, read, write what we think, to petition, assemble, criticize government officials and participate in legislation that we did not scent danger until the menace of dictatorship appeared on the world's horizon.

In this crisis the general public turns to the school for help. America must be made safe for democracy through education. The school has tried to meet this crisis in part through the traditional method of lip service. The formal study of the constitution of the United States, saluting the flag and oaths of allegiance to the Constitution are procedures that have been enthusiastically adopted in many communities and states. Probably this does no harm, but many doubt its value. Modern educators and psychologists tell us that democracy is a way of life, something that relates to behavior. It may be thrilling to salute the flag in an assembly; but does that mean that one who experiences such an emotion is likely to be more tolerant, cooperative, self sacrificing or just? It is doubtful. *The habits of democracy must be learned by practice.*

Reflective thinking has led us to believe that the spirit of democracy, or self government, must actually be lived in the schools. The theory and practice of democracy is becoming more widely accepted every day. It begins down in the grades and runs through high schools and colleges. Student control of school papers, clubs, games and class activities all bear witness to this growth of democracy. Although there are still Stalins, Hitlers and Mussolinis in the offices of superintendents and principals, most school organizations encourage the participation of the rank and file of their teachers in the work of the schools.

Does health education have a legitimate place in the democratizing of our schools? Most assuredly. It begins even down in the first grade. Here it is not unusual for the children to decide with the guidance of the teacher to have a party to which their parents are invited. This leads to a discussion of what food they are to have, how much, how the table is to be set, what decorations are to be provided and how the work is to be divided among them afterwards. Rural schools desiring hot lunches have planned entertainments to buy equipment and have carried on the project with little help from the teacher. In a city school, a number of accidents on the playground led the pupils to investigate the causes and to take steps to make their play safer.

Careful reading of the special articles on health in this department over the last few years will show that the teaching of democracy as a way of living has steadily increased and has tended to incorporate in it safe and healthful living. Thus, self management in solving health problems becomes a vital part of school progress.

Detroit Public Schools

The teaching of democracy as a way of living has increased steadily and has tended to incorporate in it safe and healthful living.

Stephen Deutch

Is there a definite program of study and instruction to help children understand the social and personal significance of good health?

Creative Health Programs

By HELEN M. SMITH and EFFIE G. BATHURST

This is the first of a series of articles, which is the result of the fortunate collaboration of two successful teachers and educational experts: Helen M. Smith, who is a junior high school science teacher in Santa Barbara, Calif., and Effie G. Bathurst, Research Associate, Teachers College, Columbia University. The point of view of this series is suggested by "Creative Ways for Children's Programs" by Josephine Murray and Miss Bathurst.

TEN or fifteen years ago the Parent-Teacher association in a certain town invited the children in an elementary school to take part in a program on the health of the school child. As the time allotted to the children on the program was short, it was decided that only the third and sixth grades should participate. The third grade prepared a pageant, in which vegetables impersonated by the children appeared with the purpose of making a sick child well and accomplished their purpose in a miraculously short time. The children did not write the play. The teacher bought it, and the pupils memorized its lines. The sixth grade displayed a set of notebooks with uncertainly designed covers, in which they had written summaries of the lessons in their textbook and copied some of the pictures.

The guests were thereby "entertained," and no one asked out loud whether some child might have thought that vegetables could cure any illness almost as soon as eaten; whether because of taking part in

the play, any child overcame a dislike for spinach or learned to eat lettuce; whether the pupils who made the notebooks improved their posture in walking or sitting, or whether the program had any effect on the children's health habits.

Today, parents and teachers are asking questions about children's programs on health. Among them are the following: Should children's programs on health be a part of the health curriculum? If so, what kind of program is most educative? Should it be "ready made" or planned and given by the pupils? A sound plan of health education is the best guide in answering these questions.

A vigorous, vibrant personality with wholesome mind and sound body is the goal of health instruction in modern schools. To achieve the goal, health education should continue, not six hours of each child's day but twenty-four hours. The health curriculum is comprised of activities for maintaining personal health and contributing to community health, the development of habits, the improvement of attitudes and definite study and search for facts and reasons. Any school can judge the effectiveness of its health curriculum by considering the following questions:

1. Do the children help establish healthful environmental conditions every day, seek fresh air and sunshine, use proper light, help keep schoolroom and home clean and cheerful, aid in the preparation of the proper lunch?

2. Is each child helped to form proper personal habits with respect to cleanliness, sleep, relaxation, play, eating, promptness, orderliness and emotional control? And correct social habits with respect to poise, helpfulness and courtesy?

3. Are the pupils learning to desire and value highly a clean and pleasant environment, their companions' pleasure or comfort, their own adequacy and responsibility toward life?

4. Is there a definite program of study and instruction to help children understand the social and personal significance of good health? In this respect, health instruction in some schools has been made a part of the regular instruction in science.

Although some of the former ways of teaching health have proved inadequate, they are still practiced by teachers who have not given the subject sufficient thought. "I am always distressed," said a supervisor recently, "when I enter a classroom and hear the children singing 'Eat more carrots' to the tune of 'Old Black Joe.' It is ridiculous. The pupils spoil a lovely song, and the *idea* of eating carrots is so far separated from the *practice* of eating them that the children do not apply it." The irrelevant health song or parody is only one of the madnesses which it is to be hoped are passing. Another is long rows of pupils waiting for the morning "health inspection" by teacher or by an appointed pupil. Another is the practice of having pupils write in outlines the names of the bones of the body or trace the movements of the circulatory system without regard to the significance of either. Still other inadequate practices are the setting up and dumb-bell exercises, instead of exercise through play. Such ways of teaching health are ineffective because they do not afford the child a chance to practice laws of health in his everyday experiences.

A visit to a modern one-room school gives a bird's eye view of various phases of an adequate elementary health curriculum. Here children of many grades help make the environment healthful and practice ways of living that are conducive to order, cleanliness and health.

Shortly before 9 o'clock the pupils tidy the classroom. The hall or washroom is supplied with running water, liquid soap, paper towels, paper cups and mirror, which the children take turns using. There is no crowding. Pupils who are waiting for others stand quietly or sit on a chair or bench and chat. Sometimes the teacher sits there too. Her "daily inspection" is made unobtrusively as she greets each child. If he shows signs of, or complains of, not feeling well, she talks with him privately later. Young pupils need one kind of suggestion, older ones, another. Each child has his own comb, nail file and handkerchief. Paper handkerchiefs are provided for those who forget their own.

There are other things for each pupil to do to make the schoolroom a healthful and cheerful place in which to work. A boy reads the thermometer and raises or lowers windows, being careful that there is no unpleasant draft on any one. A girl adjusts the shades so that no child has to read with glare on his page. A boy sweeps the porch and shakes the door mat. When a pupil enters the primary class, an older boy arranges the height of an adjustable seat and desk to fit him.

During the entire day the boys and girls follow correct health procedures. Provision is made for relaxation as well as for play periods. Younger pupils take their naps. Older ones read, listen to music or chat. A midmorning lunch of plain or chocolate milk is served by a committee.

As children gain ability to study and begin to ask for reasons for things, units of study about the improvement of health are planned. These may be organized as part of a physical education course or an elementary science curriculum or developed as independent units. Through organized study the children learn enough about the body to help them understand the ways of keeping good health; discuss the importance of nutritious foods and proper diets; plan ways of recreation to meet their personal needs; consider problems of health which affect the local community.

The scene of the modern small school is enlarged and multiplied in the modern city or consolidated school. Not only the health curriculum, but the entire school program is planned so each child will develop his personality, poise and mental health by doing things which he can accomplish with satisfaction. In social studies and science particularly, he learns to think critically and constructively and to direct his energies wholesomely in creative paths. He has opportunity to work with others and to learn to be courteous and helpful. In the various arts he becomes responsive to beauty in many forms and has opportunity for self expression when he needs it. Through participation in healthful ways of working in a healthful environment, boys and girls develop and maintain good health.

The approach to organized health instruction and study should be made through the children's personal needs, their recreational interests or hobbies and their responsibilities toward school, home and community. Their personal

needs are in the fields of mental satisfaction and of physical development. Some of these are organic, as in eating proper food. Others are remedial, as in the case of poor posture. Still others are for personal safety. Children's recreational interests afford a basis for study. What, for example, are the advantages of hiking, tennis or baseball for the improvement of health? The youngster, who in the interest of being a good citizen feels responsible for the welfare of his home, school or community, will be interested in studies of community health.

Programs on health should be a part of the health curriculum. Those which grow out of modern types of health instruction are vital. From beginning to end the children create them. Their activities are more significant than ready-made fantasy, which breaks the rules of life and science. They are a challenge to boys and girls who are interested in improving their personal health and the conditions which affect the health of their community. The remaining articles in the series will tell how such programs can be built.

Cooperation Is the Keynote

By BERTHA STREETER

Detroit has adopted a practical health education program that plans and secures the cooperation of school staff, family, physician and outside agencies. Miss Streeter, a professional writer well known to our readers, has prepared this sketch of a school system in action after many visits to schools and school officials.

DETROIT has long been proud of her school health programs. For years it seemed as if everything was done that could be done to promote the health of school children.

"Maybe we did remove tonsils, get glasses, repair teeth, cause children to gain weight; maybe we even saved lives. But what did we teach them in respect to health?" asked the director of school health service of the Detroit Department of Health.

"We taught the child and his parents to look to the school for all health guidance and counsel, instead of to his physician. We assumed a load of obligations too great for the school to carry. We taught the child to depend on a type of service that was to be denied him when he graduated from or left our schools." One year this led to the immunization of more than 100,000 school children against diphtheria; while during the same period there were 450 deaths from that disease, mostly among children of preschool age!

For some time the belief had been growing in Detroit that an adequate school health program should educate the entire community to get complete medical care for each member of the family, rather than merely furnish emergency service for school children. So the board of education, the board of health and the Wayne County Medical Society worked out a new plan. That fall, the school nurses gave physical examination forms to children entering kindergarten and first grade with instructions to have them filled out by their family physicians. Parents of these children were reminded that "To get the most from work and play, every person must be in the best possible health. Many of the handicaps of adults start in youth. To secure a successful future for the child he must be taken to his own physician for a complete physical examination each year. He should have such an examination right away so his teachers may know his physical condition and act accordingly. The doctor's recommendations should serve as guides for the parents, also. Have any physical defects in the child corrected as soon as possible, as in that way only can he gain the most from his education."

By December of that year, 2,000 blanks had been returned, so the following fall the plan was extended by issuing similar forms to all students entering the intermediate grades and high schools. The physician measures the student's height and weight, examines his eyes, ears, nose and throat; looks him over for posture and any abnormality in glands; takes his blood pressure and checks his heart; looks for hernia and flat feet; notes dates when he was protected against smallpox, typhoid and diphtheria; whether he was given the tuberculin test and whether it was followed by x-ray examination and the findings. He also notes approximate dates of childhood diseases and any other facts he thinks should be considered in promoting the child's health.

Based on this record, he makes his recommendations as to which of five types of physical education his patient should have. Regular physical education includes such strenuous activities as baseball, basketball, soccer and competitive swimming both for boys and girls, with football, track, stunts, sports, hockey and R.O.T.C. as additional activity for the boys; and for the girls, field hockey, fieldball and speedball. In restricted physical education, the activities are modified to eliminate strenuous features, so they include such forms of exercise as dancing, games, walking and noncompetitive swimming. Corrective physical education includes activities to correct orthopedic defects, such as poor muscle tone, poor posture, pronated arches and so on. Some children need a rest period instead of activity, and for others the physician makes special recommendations. To all this he signs his name, then returns the blank to the school his patient attends. After the information it contains is recorded there, the form goes back to the division of school health service of the department of health.

Each teacher keeps the health records of her student in a prominent place in her desk where she is often reminded of her part in the program. As each defect is corrected, that fact is recorded on the health records by the school nurse.

The doctor examines each child in his own office in the presence of the parent, explaining how the student will benefit by each correction that he recommends. If within a reasonable length of time nothing is done to relieve the child, the school nurse visits the parent. She finds why the defect has not been corrected, advises the parents as to how the matter may be settled and makes definite plans with them if they need such help.

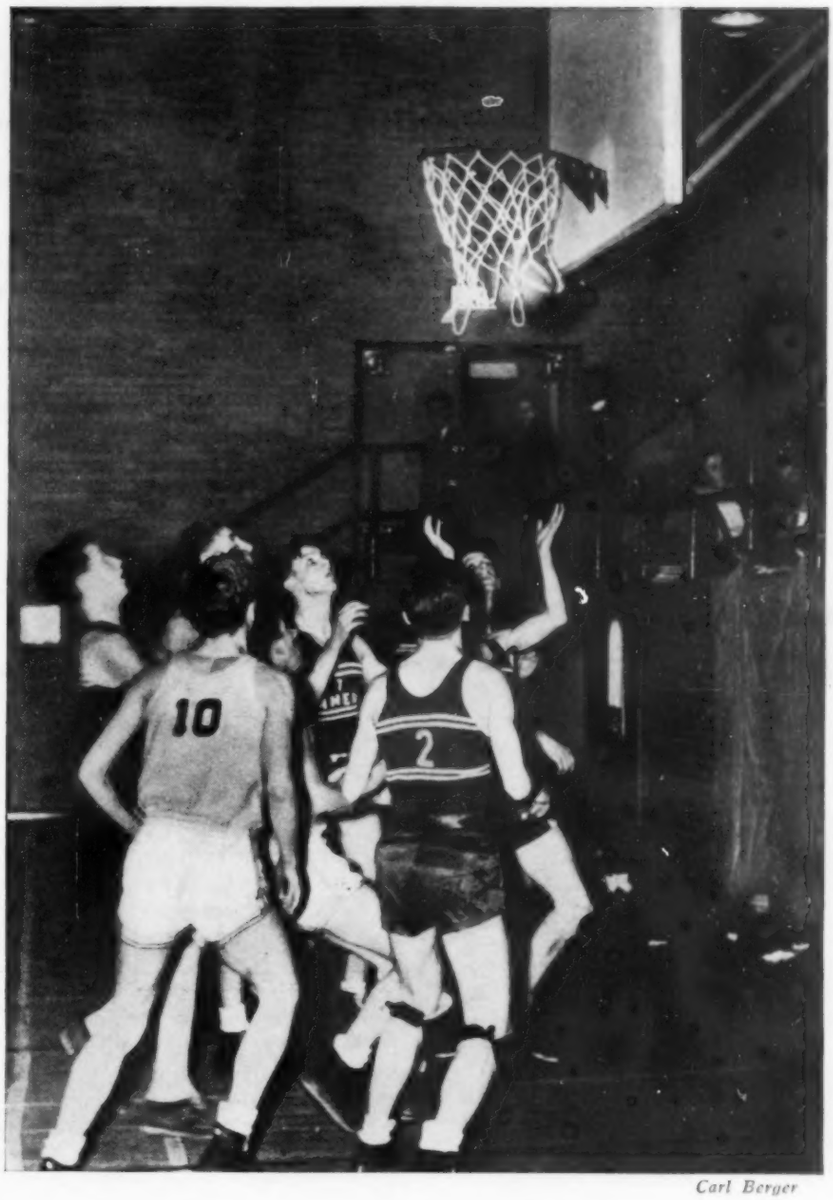
Since all children who are requested to see physicians do not do so, provision is still made for school physicians in some schools. However, in Detroit every teacher must be able to spot physical defects in her charges. Early in the school year, each inspects her pupils for

any apparent defects of vision, hearing, skin, nutrition, teeth or tonsils. It is assumed that when a child presents an uncorrected physical defect that is manifest to the teacher, he represents a family unacquainted with the special services rendered by physicians in his community. His condition implies the need of something more than routine correction.

If the school doctor agrees that this child needs medical help, the nurse talks the matter over with the parents and uses her own judgment as to what agency would best meet the need of this particular family. As a result, some parents choose a family physician; some pupils attend the clinics of the Children's Fund of Michigan; indigent parents are usually referred to hospital clinics and some to Probate court. If after a few weeks the family has taken no steps to have the defect corrected, the school nurse, sometimes assisted by the teacher and the principal, persistently and tactfully follow up the matter until the child's problem is solved for him. Notes are written, visits made and other means devised to convince the parents that if only Johnny's body were fit, his mind could easily cope with his school work.

All too often, though, when parents are finally convinced, there proves to be a lack of money. So some schools have their own welfare committee, a woman's or mother's club or some other organization that through donations, teas, card parties, plays or what not, funds for such purposes are raised.

Success in leading one member of a household to better health often leads to success along the same line for another.



Carl Berger

Based on the student's record, the doctor recommends which of the five types of physical recreation his patient should have.

New Trends in Teaching

By JEAN V. LATIMER

Again we start another year with Miss Latimer to see through her trained eyes the ways in which health is taught in the grades. Her opening article emphasizes what should be the foundation of all health teaching: meeting the health needs of individual children. Miss Latimer is the Coordinator of Health Education of the Division of Child Hygiene in the Massachusetts Department of Public Health.

HEALTH education is rapidly becoming recognized as an integral part of general education. This has led teachers to realize that the same methods and technics applied to general education should be applied to the teaching of health.

Therefore, we are not surprised to see the trends of general education reflected in the specific teaching of health. For example, modern education is stressing the importance of "the whole child."

This past year an increasing interest on the part of the classroom teachers has been shown in actually studying the physical and emotional aspects of each child, as well as knowing about his mental development.

Here are some of the means used by teachers in finding out the actual problems and health needs of individual children:

1. The school health examinations.

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2. The school dental examinations.

3. Continuous teacher observation of the general appearance of the pupil in terms of possible physical defects or illness; the use of general cumulative inventory sheets to record information about the children and their environment.

4. Individual conferences with school nurse, school principal and parent.

5. Health habit surveys.

6. Health knowledge tests.

The teacher of elementary grades is no longer concerned merely with knowing the statistical summary of the findings of the physical and dental examination in regard to the children in her classroom. The individual or "the case approach" is becoming a fundamental basis for teacher guidance.

An increasing number of teachers are using the blank "Summary of Findings of School Health Examination" distributed by the Division of Child Hygiene. This card, besides giving the physical findings, leaves a space beside each name for comments by the teacher concerning individual improvement.

More attention is now being given to the conferences between the teacher and the school nurse. The school nurse says that conferences are effective not only in lessening some of the load of home calls but in making the school efforts click with those of the home.

Whereas the busy teacher as a rule does not like to keep records, one teacher had made out a large sheet of paper for a health record. The top of the sheet read:

Fifth Grade Health Progress Report for 1938-1939

Name of Child	Health Problem	Steps Taken	Final Results or Progress

Many facts about the child's physical condition, practices and attitudes toward health may be used in teaching health. For example, in a university extension class one of the students prepared a teaching unit on posture. She started out with the "Needs for Teaching This Unit" and listed the various children in her classroom whose physical examination showed that posture and foot defects were evident. As she developed this unit she kept these particular children in mind. This teacher believed that the developmental needs of all the group should be another important basis for teaching: Growth throughout the year necessitates the readjustment of seats and desks; in addition to that, "spring fever" had brought about an epidemic of slouchy posture habits.

This growing tendency for the actual health problems and needs of the children to be considered in building health curriculums is constantly reflecting the modern method of teaching through actual problems and situations.

For example, as an approach to some experimental teaching units in nutrition which we have developed for the middle grades, we first made a survey of the actual eating habits of the children. As a part of this survey the following questionnaire was given to each child:

1. Write down what you had for breakfast this morning and how much you ate.
2. What did you eat for your noon meal today? Was it eaten at home or at school?
3. What did you have to eat for the evening meal yesterday?
4. What did you eat between meals yesterday?

While we do not feel that statistically speaking the method is altogether valid, the teacher secured in this way a cross section of some of the child's eating habits, which would be of considerable value and guidance in teaching.

A principal of an elementary school reported that when such findings were pictorially presented by means of colored graphs, they placed before the teachers and the parents the actual practices of the children and showed where there were deficiencies. He declared, "My teachers never would believe before that the average child in their classrooms was not getting enough milk until this survey was presented, and as a result of teaching which took place, immediately following this survey the consumption of milk by the children was considerably raised."

Children's questions and informal health discussions are also proving to be valuable sources of information for teacher guidance.

This Division has been concentrating considerably on the teaching of dental health in the schools. We have found that one of the most valuable approaches to the problem has been the school dental surveys given by one of the dentists of our Division.

In this survey the classroom teacher assists the dentist, so she may learn the conditions of the

mouths of the children in her classroom before she begins to teach dental health.

Field observations also reflect the growing tendency to recognize individual differences as to the keeping of all health habit records. More emphasis is placed on individual health achievement.

For example, a fourth grade teacher showed me the health workbooks of children in her classroom. I found individual weight charts for each child. Mary's record on "How I Am Growing" was different from Sally's, but both records showed relative improvement.

Also we find that "My Individual Record for a Healthy Mouth" is now being used more extensively than the group dental certificate plan.

This past year teachers have developed this new idea of individual health workbooks in a variety of attractive ways. Schools which cannot afford one of the prepared workbooks now on the market are showing much originality in developing schemes for their own workbooks.

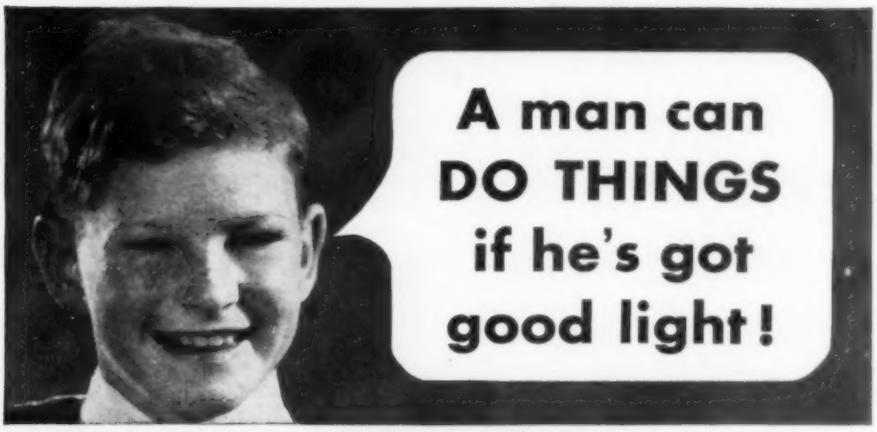
Objective health knowledge tests are also being more frequently used.

Thus, the individualization of the health program reflects the growing conviction on the part of the teachers that health education is not just telling children facts but is in understanding child nature and in guiding children to desire improvement in their health habits.

To Contributors:—*The editor of the School and Health Department will be pleased to receive articles dealing with the actual solution of concrete and practical health education problems in the school. Contributions on general theory are not solicited. Articles must not exceed 1,000 words in length and must be typewritten double spaced. Stamps should accompany manuscripts to insure their return if rejected. All articles accepted will be paid for at regular rates. Address J. Mace Andress, editor of School and Health Department of* HYGEIA, *67 Clyde St., Newtonville, Mass.*

FIRST MEETING

The first American congress devoted to a consideration of medical, nursing and other problems associated with human reproduction will be held in Cleveland, O., from September 11 to 15. It will be designated as the American Congress on Obstetrics and Gynecology. The promotion and sponsorship of the congress has been delegated to the American Committee on Maternal Welfare, Inc., which includes twenty organizations.



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Medical News

OF THE MONTH

Ice Water

There is no reliable evidence that "ice water" causes any lasting harmful effects, *The Journal* of the American Medical Association declares. Taken in large quantities with a meal, water through cooling may slow down gastric digestion for a few minutes, but this is probably of little practical significance.

"We eat ice cream, and the Eskimo eats frozen meat without evident injury," *The Journal* says. "So it seems that the temperature of ingested water is primarily a matter of habit and convenience, not a matter of health, and has no relation to a person's occupation. There is no reliable evidence that 'ice water' (water at from 37 to 50 F.) causes chronic injury to the alimentary tract."

Mottled Enamel on Teeth

Introduction of a common water supply practically free from contamination of fluorides halted the production of mottled enamel on children's teeth in three communities, H. T. Dean and F. S. McKay, Washington, D. C., report in the *American Journal of Public Health.*

In each community mottled enamel was prevalent among children, due to the presence in the water of considerable amounts of fluoride, a compound of fluorine, which is a gaseous element not unlike chlorine. After a lapse of from seven to ten years from the installation of the new water supply, the communities were surveyed again to determine the incidence of mottled enamel among children born in the interim.

In Oakley, Ida., the incidence of mottling in seventy-eight children was 100 per cent before the change of water. When the community was again surveyed, the twenty-four children born since the change showed normal calcification in those permanent teeth which had then developed.

Of sixty-two children living in Bauxite, Ark., sixty had shown mottled enamel, generally of a severe type. The second survey revealed that of the forty-five children born since the change, only two had even the mildest form of mottled enamel.

An 800 foot artesian well had supplied the water for Andover, S. D. When it failed, the residents resorted to a well 22 feet deep. An examination of school children ten years after this change showed that the fourteen children from 6 to 10 years of age presented normal calcification of the permanent teeth, whereas mottled enamel had previously been common.

Stopped Spontaneous Breathing Forty Minutes and Lives

The life of a 14 year old girl who had ceased spontaneous breathing forty minutes was saved recently in San Diego, Calif., by D. H. Werden, M.D., he reports in *The Journal* of the American Medical Association. Stating that the axiom "where there is life there is hope" is applicable in certain cases of brain tumor even after breathing has ceased and "life" is limited to heart function, Dr. Werden described the successful removal of the tumor after restoring normal respiration. Acute respiratory failure frequently causes death in these patients unless the tumors are removed. In this particular case there was a prolonged period of unconsciousness, due no doubt to an insufficient amount of oxygen in the brain tumor. Blindness and some disability in walking were the only apparent after-effects, Dr. Werden reports.

Vitamin C Potency in Orange Juice

Fresh orange juice loses little vitamin C potency in a refrigerator overnight, if the juice is kept in a covered container to avoid access to air, *The Journal* of the American Medical Association states.

Possible Cause of Mongolian Idiocy

Pituitary deficiency of the mother during pregnancy, transmitted to her offspring, is suggested as a possible cause of Mongolian idiocy by C. E. Benda, M.D., Wrentham, Mass., in the *Archives of Neurology and Psychiatry.* His theory is based on a microscopic examination of the pituitary bodies of thirteen supposedly mongoloid patients.

Mongolian idiocy is characterized by flattened skull, oblique eye slit, mobile hips and shortness of thumbs and little fingers.

Infant Feeding

One third of all newborn infants will lose between 5 and 8 per cent of their birth weight during the first two weeks of life no matter what form of feeding is given them, Heyworth N. Sanford, M.D., Chicago, declares in *The Journal* of the American Medical Association.

This conclusion is drawn as a result of a study of 4,622 infants. He also says that the nursing of newborn infants every four hours night and day, with avoidance of any complementary feeding, except water, is the ideal method for promoting breast feeding. He points out that the stimuli of these frequent and regular feedings are necessary to promote production of milk.

Care of Broken Back

By proper first aid care of fractures, especially those of the spine, which result from automobile accidents, not only permanent disability or deformity, but death itself can often be averted, H. Earle Conwell, M.D., Birmingham, Ala., reports in *The Journal* of the American Medical Association.

"Many fractures of the spine are not recognized," he explains, "because the patient is able to walk after the accident, frequently stating that he has a 'kink' in his back and that the disability is of no importance. Such injuries, however, usually become more painful as time goes on and eventually medical advice has to be sought."

Dr. Conwell says that the need and importance of first aid after automobile accidents is revealed by the fact that in 1937 about 1,150 persons died out of an estimated 8,000, whose spines were fractured in such accidents in this country.